Jobs and Labour Market Policy: A Strategic Scan of International Research

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Strategic Scan - A New Approach to Knowledge Generation and Dissemination

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This report was developed through a unique partnership of Human Resources Development Canada, five Ontario government ministries and the academic community. This partnership was established to do three things: (i) identify an issue that was critical to human resources strategic policy and operational planning in Ontario, (ii) engage the best available academic network to scan the most credible evaluative research to learn the lessons of international experience in this area, and (iii) situate the findings in the context of Ontario and the knowledge requirements of both levels of government. In short, the objective was to identify and fill an important knowledge gap in a timely and cost-effective manner.

Three topics were chosen to be discussed in this report. The first dealt with recent trends in job quality in Canada, the United States and Europe, including their hypotheses and explanations. The second focussed upon recent trends in unemployment and labour force participation, hypotheses and explanations. The third topic examined the effects of employment protection legislation on job quality and unemployment. Following the release of this report, a workshop in Toronto was arranged where Ontario officials from provincial ministries and from HRDC Region took the lead to present the findings and discuss the Ontario implications. In this way, the loop was closed from initial identification and production of the strategic information in demand to the final assessment of its significance in the Ontario context.

During this process, an informal network was created among federal and provincial officials and international researchers that worked well and should endure. The success of this collaborative venture was due, in large measure, to the active participation of Moira Hudgin and Marie Gravel (HRDC Ontario Region), Frank Whittingham (Ontario Training and Adjustment Board), Benita Swarbrick (Ontario Ministry of Labour), Rob Swaffleld (Ontario Ministry of Finance), Dan Buchanan (Ontario Ministry of Community and Social Services), Michel Theoret (Ontario Ministry of Education and Training), and Elizabeth Wagner (Jobs Ontario Training). I would also thank Abe Chiasson of the HRDC Strategic Planning Branch for his help in launching this initiative prior to his retirement. Finally, Professors Peter Kuhn, Steve Jones and Martin Browning of McMaster University provided the research contacts through the recently formed Canadian International Labour Network (CILN) that marshalled the empirical evidence, both published results and research in progress. Their value added was to sift through the evidence and establish what was credible to report.

The success of this project may recommend this approach to future and regular strategic scans for HRDC and provincial partners to produce credible evidence for consideration in policy and operational environments.

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Introduction

This report constitutes the final written product of an experiment in cooperation and consultation between government officials and academics interested in labour market policy in Ontario. This experiment began with a series of meetings in the spring of 1995 involving officials from Human Resources Development Canada, the Ontario Ministry of Labour, the Ontario Ministry of Finance, and others, and a group of academies from McMaster University. These meetings served to clarify both the research needs of Ontario public servants, and the areas of competence and expertise in which the academics could help policymakers.

From those meetings, a set of three research questions emerged as being both of value to public servants and feasible for the academics involved. Those questions were: What have been the main trends in the level and distribution of job quality in Canada and other developed countries? What have been the main trends in unemployment and labour force participation? And what effects, if any, do labour standards regulations such as those set by the Canadian provinces have on the economy's ability to provide a plentiful supply of high-quality jobs?

Taking those questions as our mandate, the McMaster academics then proceeded to organize a major international search and review of the academic literature. On the first two questions, which are broader questions of fact and background information, this search, while going beyond currently published materials, was largely confined to the written Word: a careful and critical summary of existing papers, books, working papers and available manuscripts in progress was produced. On the latter question of labour standards, we agreed instead to proceed in a different manner. First, in order to allow a more in-depth analysis and to show the potential for how a more focused research review might work, one particular kind of labour standards was focused on: employment protection legislation, such as advance notice and severance pay requirements for permanently laid-off workers. Second, in reviewing the available research on this subject, we went beyond written sources, and gathered together at McMaster University a group of eight acknowledged international experts for a focused workshop of the most recent research available on that topic. These experts were drawn from four countries (Canada, the U.S., the UK, and Italy), and have recently been engaged in research on employment protection in a much wider array of countries, including Germany, Japan, and Belgium. The workshop took place on November 4,1995, and had in attendance a number of local academics, graduate students, and policymakers from the Ontario community, as well as representatives of HRDC.

The current report contains a summary of our findings on all three research questions in our mandate. Chapters 2 through 5 review the international literature on trends in job quality and unemployment, focusing in turn on documenting each trend, then on a critical assessment of various explanations that have been proposed for these trends. Chapter 6 defines what we mean by "employment protection legislation" and summarizes the current state of such laws in Canada, the United States, and Europe. Finally, Chapter 7 summarizes and synthesizes the proceedings of the conference about the effects of employment protection laws on the economy's ability to provide a plentiful supply of high-quality jobs.

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1. Trends in Job Quality

Introduction

The goal of this chapter is to summarize the main trends in the level and distribution of job quality in Canada and other developed countries over the last twenty-five years, As the level of real wages remains by far the most important dimension of job quality, most of our analysis focuses on real wage trends. Where evidence is available, however, we shall consider trends in other dimensions of job quality, such as hours and work arrangements and non-wage benefits. Given limited space and limited available research, however, most of our analysis of non-wage aspects of jobs will focus on one key aspect, which has attracted considerable attention in recent discussions: the permanence and stability of jobs.

The chapter has three main sections. Section 2 reviews the main changes that have occurred in job quality in Canada, looking first at trends in the level and distribution of real wages, then at some evidence on job stability and permanence. Section 3 compares the Canadian trends to our nearest and most influential neighbour, the United States, while Section 4 considers a number of other developed countries from Europe as well as Australia. Section 5 summarizes the chapter's results. Very briefly, these are as follows. (a) Beginning in the mid-1970s, Canada experienced a slowdown in the rate of real wage growth and an increase in wage inequality. (b) These trends were much more pronounced for men than women. (c) There is, however, little direct evidence that Canadians' jobs became less stable over this period. And (d) relative to other countries, the recent trends in Canada have been neither unique nor universal. Some countries (e.g., the UK and France) experienced significant real wage growth over this period; others (e.g., the U.S.) experienced declining real wages for men, as occurred in Canada. Some countries (e-g., the U.S. and UK) experienced significantly more wage polarization than Canada; others (e.g., France and Germany) experienced much less or none at all.

Job Quality in Canada: Recent Trends

In this section we review the evidence on trends in job quality in Canada. We begin with trends in the level and distribution of wages and then turn to other aspects of job quality. Before doing so, however, it is important to set our analysis of the distribution of wages and job quality in a broader context. In particular, while the distribution of good jobs is an important determinant of the overall distribution of economic well being in society, it is important at the outset to remind ourselves that the link between job quality and the distribution of economic well being is not one-for-one. Aspects of this link which are important, but are not directly addressed in this report are, the distinction between wages received on a job and total earnings from the job (which depend on the number of hours and weeks worked); the distinction between total earnings and total income (individuals may have income sources other than labour market earnings, including government transfer payments, capital income, and transfers from family members); and the distinction between individual, and family or household income (some individuals with low-earnings live in high-income households) . Thus, while we examine what is probably the key determinant of the distribution of economic welfare across people in our society, it is important to bear in mind that this (already very broad) literature review does not cover all such determinants.

Wages

Recent (post 1970) real wage trends in Canada have been well documented. A consistent picture has emerged from numerous studies by various authors using different data sources and alternate methodologies. To summarize the main facts:

(1) Real wages for men rose through the early seventies and then declined through the present (though the gains of the early seventies have not been entirely erased) .

(2) The real wages of women continued to grow through this entire period.

(3) The wage distribution was compressed in the early seventies but has been widening since.

(4) Most of the increase in wage variance has been due to growing age differentials, rather than education differentials.

The figures for wage levels reported by Kuhn and Robb (1995) are representative. They use data from the 15 repetitions of the (Canadian) Survey of Consumer Finances between 1971 and 1991 to examine wage, employment and unemployment trends in that period. Focusing on mean annual earnings of full time, full year workers, they find that the mean annual real earnings of men rose by 14 percent between 1971 and 1975. After peaking in 1975 they declined by 6 percent between 1975 and 1991. The mean real earnings of women grew throughout the entire period; by 16 percent between 1971 and 1975 and by a more moderate but still significant 13 percent between 1975 and 1991. As for men, these figures are for full year, full time workers.

Focusing on average earnings can mask important changes in the distribution of earnings. In fact there have been important changes in the dispersion of earnings over the same period. Researchers reporting these changes have focused on a number of measures:

(1) The unconditional variance of wages (or earnings), or its dimensionless equivalent, the coefficient of variation. This is the simplest measure of the dispersion of wages.

(2) The returns to various observable worker characteristics, such as age and education.

(3) The change in "within cell" wage variances, that is, the dispersion of wages among workers with identical observable characteristics.

Before documenting the changes in Canadian wage distributions along all the above dimensions, it is useful to note the frequent reference this literature makes to terms like "skill differentials," the "returns to skills" or growing disparity between "skilled" and "unskilled" workers. The term "skills" is used in this literature in several different senses. Some authors treat "skill" as synonymous with education. In other work, "skilled" and "unskilled" refers to occupation. Kuhn and Robb summarize a worker's skill level by his or her rank in the wage distribution. Finally, in some work, "skill" is the residual after observable differences are controlled for; consequently it corresponds to the "within cell variation" of (3) above. Some care is required in comparing across studies, and we shall endeavour to be transparent about which measure of "skill" different analysts are considering.

Freeman and Needels (1993) examine changes in the distribution of wages in Canada using the 1976, 1980, 1987 and 1988 editions of the Survey of Consumer Finances and the 1971,1981 and 1986 Censuses. The former allow comparison with U.S. data from the March CPS. They report that educational differentials increased in Canada by much less than in the U.S.. However, they report significant increases in Canadian age differentials, increases that are quite comparable to those observed in the U.S.. This greater importance of age (over education) among observable characteristics has been confirmed by other analysts, for example Myles and Picot (1994). Freeman and Needels report a narrowing of the gender pay gap, the obvious consequence of the gender differences in trends of wage levels reported above. Finally they report that within educational groups, the distribution of earnings has widened.

Kuhn and Robb (1995) examine changes to the distribution of wages by considering the wage growth experienced by different percentiles of the wage distribution. Some of their results are reproduced in Tables 1.1 and 1.2 here. There are several things to note in these tables. First, for both men and women, Canada experienced wage growth and compression between 1971 and 1977 (this has also been noted by Dooley 1986). After that, wages became more unequal for both men and women, with moderate growth continuing for women of all skill levels and wages falling at the median for men. Second, note the important role of changes in weeks worked per year in the changes in yearly earnings. This is true not just for women (as one might naturally expect, with growing participation) but also for men. In particular, a good part of the yearly earnings losses of men at the bottom of the wage distribution appears to be the result of reduced weeks of work. Relatedly, Morisette, Myles and Picot (1994) have documented the role of increases in weekly hours heterogeneity in the increase in earnings heterogeneity. They report an increase in 50+ hour work weeks, especially at the top of the wage distribution.

TABLE 1:

Changes in Men's Wages by Percentile of the Wage Distribution
(source: Kuhn and Robb, 1995)

1971-1977

Percentile	% change weekly wages	% change yearly earnings	absolute change weeks worked per year
90-100	0	+5	0
75-90	+8	+7	+0.2
50-75	+14	+16	0
25-50	+18	+15	-0.1
10-25	+24	+25	-0.2
0-10	+33	+33	-0.6
1977-1991			
90-100	-10	+2	-0.8
75-90	-12	-12	-2.9
50-75	-15	-17	-3.4
25-50	-16	-19	-3.6
10-25	-15	-21	-5.1
0-10	-16	-20	-7.1

TABLE 2:

Changes in Women's Wages by Percentile of the Wage Distribution
(source: Kuhn and Robb, 1995)

1971-1977

Percentile	% change weekly wages	% change yearly earnings	absolute change weeks worked per year
90-100	-5	+29	+5.8

75-90	+2	+43	+6.5
50-75	+0	+57	+6.0
25-50	+9	+67	+4.9
10-25	+12	+96	+6.1
0-10	+16	+128	+3.8
1977-1991			
90-100	+22	+29	+5.4
75-90	+19	+51	+10.3
50-75	+15	+61	+11.1
25-50	+18	+68	+12.0
10-25	+16	+67	+9.5
0-10	+11	+61	+8.8

Other recent studies of the changing level and distribution of Canadian wages include Beach and Slotsve (1994), Bar-Or et al. (1995), Burbidge et al. (1994, 1995), Morrisette, Myles and Picot (1994), and Myles and Picot (1994). Results which are confirmed by these studies include the fact that educational differentials increased in Canada by much less than in the U.S.; that Canada experienced significant increases in age differentials; a narrowing of the gender pay gap, the obvious consequence of the gender differences in trends of wage levels reported above; and an increase in the dispersion of earnings within educational groups.

Other Dimensions of Job Quality

a) Job Stability

A second important aspect of a job is its permanence. Long lasting jobs are important for a number of reasons. First, continued employment allows workers to accumulate job and firm specific skills and affords them opportunity for promotion. Both are important sources of wage growth. Second, job duration is certainly positively correlated with other aspects of job quality. For example, many fringe benefits are offered only to workers who have accumulated a certain tenure, and are not offered to contract or temporary workers. Third, longer job spells likely mean fewer spells of unemployment. Spells of unemployment are not only often periods of financial strain, but they are also periods in which human capital accumulation stops and depreciation or loss may occur. Finally, aside from the above, it is likely that most workers simply value employment stability.

The popular and business press is riddled with reports of declining employment stability, rising contingency of employment, accelerating career switches. A number of analysts have turned to the data to search for these phenomena. Perhaps surprisingly, they have turned up very little evidence to support these notions. A good example is a recent working paper by Green and Riddell (1995). In their paper, Green and Riddell employ the March Labour Force Survey files for 1979,1989 and 1991 to examine changes in job tenure between 1978 and 1991. Examining truncated tenures (of jobs still in progress at the time of each survey), they find little evidence of change in average job tenures. They do report some differences among demographic groups. For example, they find that among the youngest and least educated workers of both sexes there is a tendency toward shorter jobs. There may be a decline in the proportion of truncated tenures of 6-10 years, especially for females, but an increase in the proportion of jobs that have lasted 11-20 years, especially for females and males aged 35-44. They report some decrease among males aged 55-64 of tenures of over 20 years. This may reflect a trend to earlier retirement, rather than a decrease in job permanence. When they turn to 5 year retention rate figures they find some evidence to indicate a small reduction in stability.

In currently ongoing work, Crossley, Kuhn, and Schuetze employ waves of the Survey of Consumer Finances from 1975 to 1992 to estimate changes in age-conditional interrupted tenures. They find some evidence of a mild decrease in median (interrupted) tenure for men in the late 1980s, but this decline is dwarfed by a much larger increase for women. Heisz (1995) takes a different approach, estimating retention rates and from those expected completed tenures. He uses LFS data from 1976 to 1994 to estimate expected completed tenures for jobs starting in 1981 to 1994. Like the other researchers he concludes that there has been no dramatic change in employment stability. The expected duration of a new job appears to have fallen slightly for 45.6 months in 1981-85 to 42 months in 86 to 90, but then risen again to 45.6 months in 1991-1994. Given the short time period covered, one might wonder if he has simply captured a cyclical effect; however, the changes he observes go in the opposite direction to cyclical effects on tenure reported by other authors (Bowlus, JOLE, 1985).

b) Benefits, non-standard work

Recent data from Statistics Canada's November 1991 Survey of Work Arrangements provides a fascinating profile of many important attributes of Canadian jobs, including work schedules, use of paid overtime, flexitime, and temporary employment (see Akyeampong and Siroonian (1993) for an overview). Unfortunately, since such data are not available for earlier years, to date there has been little formal statistical analysis of long-term trends in other dimensions of job quality for Canadians, even though many such aspects may be very important to workers.

One exception to this trend is the prevalence of "moonlighting," or multiple job-holding. When defined as the percentage of husband-wife families in which at least one spouse has two or more jobs, moonlighting increased significantly between 1984 and 1994 (Pold, 1995). And regarding hours of work, Sunter and Morisette (1994) have shown that, while part-time work increased substantially between 1976 and 1993 in Canada, most of this increase occurred among youths (age 15 to 24), the percentage of whom work part time increased from 24 to 51 percent. Widely-touted increases among adult women and men (28 to 31 percent, and 4 to 8 percent, respectively) were, at least in absolute terms, much more modest.

Overall, representative, economy-wide (as opposed to anecdotal) evidence on trends in non-wage aspects of jobs is relatively scarce in Canada. Further, most of the evidence that is available in both Canada and the U.S. (see below) has one interesting feature: either no significant trends are observed, as in the case of overall time trends in tenure, or the trends tend to **accentuate,** rather than counteract, the trends in wages. (For example, comparing men and women in Canada, not only did women's wages increase faster than men's, so did their job tenures, and their rate of part-time work increased less than men's.) This tendency for different measures of job quality to move in the same, rather than opposite, directions, suggests that the data-driven focus on wages which pervades this and most other papers in the area may not be grossly misrepresentative of overall trends in job quality in Canada or other countries.

Job Quality in Other Countries: Recent Trends

The U.S.: Wages

Developments in the wage and earnings distributions in the U.S. have become the subject of an enormous literature. Two of the seminal papers in the area are Murphy and Welch (1992) and Katz and Murphy (1992). Murphy and Welch focus on the returns to observable worker characteristics. They note that while the pattern of these differentials (increasing wages with education, and an increasing, concave wage - age profile) have been relatively constant through time, the size of these differentials has moved substantially. Using successive March CPS supplements from 1963 to 1989 and focusing exclusively on white males, Murphy and Welch chart the changes in wages and employment across age - schooling categories. They report that the returns to schooling increased between 1963 and 1971. For Young workers the returns to schooling began to decrease in 1971; a similar decline began among older workers somewhat later. These trends were dramatically reversed in the early 1980s and by the end of that decade schooling differentials were as large as in any year covered by Murphy and Welch's data.

Murphy and Welch also discuss experience (or age) differentials. They consider movements in these differentials on either side of the period when the peak of the baby boom entered the labour market, approximately 1973 to 1980. They report a decline in the relative wages of younger workers in every educational category with the entry of the baby boom into the labour market. However, as the peak passes, the age differential begins to contract only for college graduates; for high school graduates it continues to expand.

Using the March CPS supplements from 1964 to 1988, Katz and Murphy add to the picture of a changing U.S. wage distribution in several ways. First, they report movements in the mean level of wages, holding the distribution of demographic characteristics constant at its average for the entire period. Considered this way, real wages grew almost 20 percent between 1963 and 1971 and then declined by over 3 percent by 1987. Next, they consider wage growth by gender, education and potential experience categories. Women's wages rose by some 9 percent relative to men's. Turning to educational groups, they demonstrate that college graduates lost the most between 1971 and 1979, but actually benefitted from substantial wage growth in the 1980s. Finally, they report that the real wage decline after 1971 was more substantial for Young workers.

Since they find that changes in gender, education and experience differentials can account for only about one third of the growth in raw wage variation, Katz and Murphy then turn to the "within-cell," or "residual" variation in wages. They measure this as the residual of a regression of weekly log wages on experience, experience squared, education categories, gender and numerous interaction terms, and call its variance "skill differentials". They show that skill differentials, thus defined, expanded dramatically over almost the entire period covered by their data. Finally, Katz and Murphy summarize the growth in overall wage dispersion by reporting the differential in log wages between the 90th and 10th percentile. For both men and women, this grew by some 0.25 from 1963 to 1987.

The basic patterns described by these two papers can be summarized as follows:

1) educational differentials expanding in the 1960s, falling in the 1970s and rising rapidly in the 1980s

2) a rise in age or experience differentials, especially in the 1980s,

3) a decline in the gender wage differential in the 1980s,

4) an apparently continuous increase in "within group" inequality from the middle 1960s to the end of the 1980s, and

5) a substantial growth in overall wage inequality over that period.

These basic patterns have been confirmed and further documented in numerous other studies, many of which are reviewed in Levy and Murmure (1992). The basic patterns appear robust to both the way the data is divided and the summary statistics used. For example, Juhn, Murphy and Pierce (1993) divide the wage distribution into deciles and consider the growth in wages for each decile of the data over same period as examined by Murphy and Welch. They find that the wages of the "most skilled" (top decile) rose substantially while the wages of the "least skilled" (bottom decile) declined. Bushinsky (1994) uses quantile regression to document increases in wage dispersion both between and within demographic groups.

As in Canada, the widening of the earnings distribution appears to be a consequence of not just growing disparity in wages, but also of a shift in the hours distribution. Coleman and Pencavel (1993a,b) report a decrease in hours (especially in the Upper tail of the hours distribution) for those with little schooling coupled with increase (again especially in the Upper tail) for those with higher levels of schooling.

The U.S.: Other Dimensions

a) Job Stability

As in Canada, there has been a substantial effort among U.S. academics to document the popularly perceived decline in employment stability and permanence and, as in Canada, most analysts have been unable to find support for this notion in the data. A representative study is that of Farber (1995). He examines interrupted job durations in the CPS for selected years between 1973 and 1993 to see if there is a trend in the likelihood of long term employment. Farber reports no systematic change in any overall summary measure of the distribution of job durations. However, overall summary measures mask some changes in average job durations among different demographic groups. In particular, he presents some evidence of decreased long term employment among poorly educated males.

Farber's conclusion that long term employment is not generally in decline has been supported by a number of other authors including Diebold, Neumark and Polsky (1994) who also use the CPS but who calculate retention rates. In a recent examination of the related issue of year-to-year earnings stability, Bushinsky and Hunt (1995) actually find increasing earnings stability in the U.S., though they give this the pessimistic label of decreasing earnings "mobility". One dissenting analysis is provided by Gottshalk and Moffit (1994), who find a substantial increase in job instability in the PSID. The reconciliation of these apparently contradictory results would seem to be an important research priority. Not only is the trend in job stability an important question in itself, but Gottshalk and Moffitt ascribe a significant fraction of the rise in wage dispersion to increasing job instability.

b) Benefits

Wages have been a declining fraction of total compensation. Thus it is important to consider what has happened to other components of compensation at the time that the trends in wages and earnings documented above occurred. The first thing to note is that part of the stagnation in real wages has been offset by growth in non-wage compensation. Growth in total compensation did slow down in the seventies; however, this slowdown was far less dramatic than the slow down in wage growth (Cox and Fox, 1995).

Second, the evidence on non-wage compensation is extremely sketchy, especially when compared to the masses that have been written about wage trends in the U.S.. While this likely reflects data availability, it is a serious shortcoming of the current stock of research. Non-wage benefits comprised over 40 percent of payroll in the U.S. in 1993 (Cox and Fox, 1995). Among non-wage benefits, pensions have received the most attention. There appears to have been a substantial drop in pension coverage in the private sector (Parsons, 1991; Bloom and Freeman, 1992). Even and MacPherson (1994) examine this decline more closely. They report that the decline is restricted to males. Pension coverage among women has been stable or risen. They also report that the drop is much more dramatic among Young males. Finally, they note (following other authors) a dramatic shift in the type of pension which predominates: defined benefit plans are being replaced by defined contribution plans.

Other Developed Countries

Both Canada and the U.S. have experienced stagnation in real wage and earnings growth for men, and an increase in wage and earnings inequality. The U.S. experienced a larger rise in wage inequality, and as part of this, a rise in education differentials not apparent in Canada. In this subsection we examine to what extent the experiences of other industrialized nations are similar or different from the developments in North America. These trends have been analyzed in some detail in a series of recent papers by Schmitt (1995), Abraham and Houseman (1995), Erikson and Ichino (1995), Edin and Holmlund (1995), and Gregory and Vella (1995); for the UK, Germany, Italy, Sweden and Australia respectively.

Schmitt (1995) finds that the United Kingdom seems to have experienced trends in earnings inequality similar to those in the U.S.. His investigation uses the General Household Survey to examine the wage structure from 1974 to 1988. Overall earnings inequality actually fell in the UK in the 1970s (unlike the U.S.) but rose substantially in 1980s (as it did in the U.S.). Schmitt however also reports an important contrast between the U.S. and UK: earnings (levels) for low skill workers actually rose over this period (in the U.S. there was stagnation and decline) .

Turning to Germany, Abraham and Houseman (1995) find virtually no increase in inequality in the former West Germany in recent years. The overall distribution of earnings has narrowed, mostly due to a compression of the bottom half of the distribution. They report no change in skill (occupational), educational or age differentials and no consistent evidence of change in the dispersion of earnings within age - education groups. This is not the case in the former East Germany, however, as is shown by Krueger and Pischke (1995). There, overall wage inequality rose following re-unification, even though wage differentials specifically associated with education fell.

Erikson and Ichino (1995) analyse wage developments in Italy in the 1970s and 1980s. Like Canada, Italy experienced a compression of wage differentials in the 1970s though in Italy's case this continued longer, until 1982 or 1983. There is some weak evidence of a reversal in the 1980s but nothing on the dramatic scale seen in the U.S. or UK however.

Sweden has long been cited as an example of a prosperous and growing economy with an egalitarian labour market. Many authors, among them Edin and Holmlund (1995) have documented the very sizable reductions in wage inequality that occurred in Sweden in the 1960s and 1970s. In addition to a decline in the raw dispersion of wages they document declines in education, age and gender differentials. They also report a substantial decline in wage inequality within occupation and educational groups. Beginning in the mid 1980s however, these trends began to be reversed. Overall inequality, educational differentials, and within-group inequality have all risen since then, and the relative position of youth has deteriorated.

Gregory and Vella (1995) contrast the Australian experience with that of the U.S.. This is an interesting comparison in part because one might expect Australia's high trade union coverage, and centralized "award" system of setting wages to compress its wage distribution relative to the U.S.. Gregory and Vella find that the Australian experience is similar to that of the U.S. except between 1969 and 1976, when Australian real wages much more rapidly, but with a decrease in employment and an increase in unemployment.

Finally, in a paper which considers a larger number of countries, Katz, Loveman and Blanchflower (1995) examine somewhat comparable wage inequality series for the U.S., UK, Japan and France. In the 1980s the U.S. and UK had dramatic increases in wage inequality. Japan had a moderate increase in the same period while in France, wage inequality declined until 1984 and then rose through 1990.

To summarize, the experiences of other developed nations provide some interesting contrasts to those of Canada and the U.S.. Like Canada and the U.S., the U.K experienced an increase in earnings inequality in the 1980s. But unlike North America, this was accompanied by real wage growth, even for unskilled men. Among other European countries, there is much less evidence of a rise in wage or earnings inequality, though exceptions do occur in the case of regions, like Sweden and East Germany, which experienced major changes in their wage-setting institutions. Australia also experienced some increase in wage inequality which may be linked to the gradual replacement of the centralized "awards" system by enterprise-level collective bargaining.

Chapter Summary

The main conclusions of this chapter are as follows. First, as is well known, the rate of real wage growth Canadians were accustomed to in the 1950s and the 1960s essentially came to an end around 1975. Since then, the real weekly earnings received by an average woman working full time have increased much more modestly than before 1975, while those received by an average man actually declined. While there is some concern that the estimated rate of real wage decline may be overstated by a failure of the consumer price index series to account for improvements in the quality of consumer products, there is little dispute that some decline has occurred for men, and no dispute at all that real wage growth has slowed down for both women and men.

Second, despite many popular impressions to the contrary, there is as yet very little hard statistical evidence that Canadian jobs have become less stable over the last two decades. If anything, the average tenure (years since started with one's current employer) of Canadians at any fixed age actually went up over this period. While these overall trends mask some interesting differences across demographic groups, and while they might mask an increasing share of employer-initiated separations in all separations, the currently available data suggest that the widely- perceived decline in job security in Canada may reflect more of an increase in the fear of job loss than a significant decrease in the actual amount of time workers tend to be associated with the same firm.

Third, the distribution of job quality, at least in terms of real wages and earnings, has changed in Canada. After a period of substantial compression in the early 1970s, there has been a relatively modest increase in the dispersion of earnings and wages since then, with the gap between high- and low-wage workers widening. This widening occurred along several dimensions, one of the strongest of which is age: relative wages of Young Canadians, compared to their older co-workers, fell substantially in Canada, especially in the 1980s. Less pronounced, but also present, was an increase in the earnings differential between more and less educated workers. Thus, since the mid 1970s, the poorest Canadian workers got poorer while the richest either held their own or got richer. Another interesting feature of the trends in Canadian job quality which occurred over the 1980s was the substantial increase in the fraction of workers, especially men, working very long weekly hours.

Fourth, given that many developed countries have had quite different experiences over the same time period, the recent trends noted above for Canada, while being shared by some other countries, do not appear to be inevitable consequences of world economic trends outside Canada's control. For example, a number of countries, such as Germany and France, experienced neither a decrease in real wages nor an increase in wage inequality over this period. Two countries (the U.S. and UK) experienced a more pronounced increase in wage inequality than Canada over this period, but both with distinctive features not seen in Canada. The British increase in inequality, for example, was combined not with real wage stagnation, but with substantial real wage growth, even among the least-skilled workers in that country. The U.S. increase in inequality involved a much larger decrease in the real wages of unskilled men, and had much less of an intergenerational aspect than Canada's: education-related wage differences rose more than age-related ones. Like Canada, however, the U.S. experienced no perceptible decrease in job stability, as measured by age-specific tenure levels, over this period.

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2. Explaining Job Quality Trends: Hypotheses and Evidence

Introduction

Why has wage growth essentially ended among Canadian men, and slowed down among Canadian women? Why did wage dispersion decrease in Canada in the early seventies and then increase? That the trends in both the level and dispersion of Canadian wages have both reversed direction within the last 25 years strongly suggests that the current trends are **not** inexorable properties, as some have suggested, of a modern, capitalist, economy. This argument is strengthened by the many international differences in wage structures and trends reviewed in Chapter II: clearly, things can be, and sometimes are, different from what they are today. The international differences and changes in trends over time noted above suggest something else of great importance as well: by comparing our current experiences with Canada yesterday, as well as with other countries, we can probably learn something about why things are the way they are in Canada today. It is this approach to understanding the sources of recent changes in job quality in Canada that we take in this chapter. As the evidence on other dimensions of job quality is scarce, and since (as we noted earlier) what we know about time trends in non-wage job attributes usually tends either to reinforce, or at least not to counteract, the time trends in wages, the focus in this chapter is on explanations of the wage trends only.

Explanations which have been proposed by various authors to explain the above trends fall into three main categories: labour supply shifts, labour demand shifts, and changes in labour market policies and institutions. Labour supply shifts, considered in section 2, include changes in educational attainment, increasing female labour force participation, and immigration trends. Labour demand shifts, considered in section 3, include increased international trade, skill-biased technological change and international capital mobility. Section 4 of the chapter considers institutional effects on wages, focusing in particular on the effects of unionization and minimum wage legislation. A chapter summary, in section 5, outlines our main conclusions. Very briefly, these are: (a) None of the supply-shift factors mentioned above likely contributed greatly to increased wage inequality in Canada. If anything, changes in educational attainment acted to mitigate, rather than accentuate wage inequality, while immigration and female labour supply growth probably had minor effects. An unanswered question, however, concerns the effects of the massive increase in labour supply due to women's increasing participation on the overall **level** of market wages in Canada. (b) A lively debate is currently occurring among economists regarding the relative importance of trade, technology, and capital mobility on the decline in unskilled workers' wages, especially in the U.S.. While in some respects the jury is still out, most economists would probably agree that trade and technology probably had some effect, while the effects of actual (as opposed to threatened) capital mobility to date have not been so important. Finally, (c) while institutional differences between, say, Canada and the U.S. probably help explain why Canada experienced **less** wage polarization over the last two decades than the U.S., changes in unions and minimum wages can explain very little of the increased wage polarization that has recently occurred in Canada.

Supply Shifts

The trends documented in chapter II of this report may have been the result of differential shifts in the relative supply of skilled and unskilled labour within countries. (By supply shifts, we mean changes in the number of individuals who are able and willing to work at a given wage rate). Some important potential sources of such shifts in recent years in Canada include changes in the fraction of the population with higher education; large changes in the labour force participation rates of women; and (c) immigration and/or emigration of labour.

Changes in Educational Attainment

In the early to mid-seventies, considerable attention was paid to the declining returns to university education in both the U.S. and Canada (Freeman 1976, Dooley 1986). The consensus view at the time was that this was essentially a supply side phenomenon: in the late sixties and early seventies the relative supply of university educated labour exploded in both countries. With generally stable demand growth, this expansion of supply lead to a decrease in the education differential. To explain the growth in the education differential in the U.S. in the eighties, Freeman and Needels (1993) propose a relative supply story based around slowing growth in the proportion of the labour force with a university education. They further argue that this story is consistent with the education differential rising by less in Canada than the U.S.; the growth in the supply of college graduates has remained strong in Canada. Nonetheless, Freeman and Needels suggest that other differences in the two countries must have also played a role, including the greater strength of Canadian unions, faster growth in real output in Canada, and Canada's better trade balance.

In their study of U.S., UK, France and Japan, Katz, Loveman and Blanchflower (1995) cite the rapid increase in the supply of college educated workers in the 1970s in all four countries and the simultaneous decrease in skill differentials in all four countries. They then argue that the pace of growth of the relative supply of college educated workers decreased markedly in the U.S., UK and Japan in the 1980s and that each of these countries experienced an increased college wage premium in the 1980s. Schmitt (1995) attributes the decrease in inequality in the UK in the 1970s to a large rise in the relative supply of skilled labour in the 1970s. However, he argues that the 1980s rise in equality must have been a demand rather than supply phenomena, because supply remained strong.

Edin and Holmlund (1995) argue that education and age differentials in Sweden can be explained by changes in relative supply. They also seem to suggest a cobweb model: an increased supply of university graduates decreased the wage premium in the 1970s. As a result fewer people went to university, and the premium rebounded in the 1980s. Abraham and Houseman (1995) point out that the different trends in the supply of highly educated workers probably explain why education premiums grew in the U.S. but declined in Germany in the 1980s. They also point out that the non-university educated workers receive better training in Germany.

Female Labour Force Participation

Despite the fact that both phenomena are very well known, a recent working paper by Nicole Fortin and Thomas Lemieux is one of the first attempts to explicitly examine whether there is any causal connection between rising female labour force participation and the wages of men (especially unskilled men). In particular, has the recent massive entry of women into the labour force reduced the wages of those already in the labour market (who are disproportionately male) by competing for their jobs? Fortin and Lemieux begin their study of this issue with the strong assumption that the overall wage distribution is constant. Such an assumption is consistent with a pure assignment model of wages, and **guarantees** the result that gains by women are offset by male losses. More interestingly, their model and estimation procedure (using U.S. (CPS) data for 1979 and 1991) capture several other features of the data, including the fact that inequality increased faster in the Upper tail for women but in the lower tail for men.

Other recent evidence suggesting a possible impact of female labour supply growth on unskilled men's wages is contained in Topel (1994). Comparing wage and employment trends across U.S. regions, Topel finds evidence suggesting a negative effect of growth in the labour supply of **skilled** women on the wages of unskilled men. A more recent examination of these trends by Juhn and Kim (1995), however, suggests that this connection is not a causal one, and more likely a result of correlated demand shifts affecting both groups at the same time and place. Thus, overall, the evidence that increasing women's labour supply hurt unskilled men in particular is weak at best. A harder question which remains unanswered by current research is whether this massive increase in labour supply had a dampening effect on the rates of real wage growth experienced by all men and women in the country as a whole. Certainly the trends seen in a number of European countries, like France, which experienced much less growth in female labour force participation, but had continuing overall real wage growth while North America had none, suggests this hypothesis bears further investigation, Little is known about its importance in Canada at the present time, however.

Immigration

To the extent that immigrant workers are disproportionately unskilled (or required to work in unskilled jobs because their credentials are not recognized) , it is possible for large inflows of immigrant labour to have the effect of "crowding" the low end of the labour market, thus bidding down the wages of unskilled Canadian workers and increasing inequality. That this is at least an important possibility is illustrated by some recent studies of the effects of immigration to the U.S. on the wages of unskilled American workers (e.g. Borjas, Freeman and Katz 1992; Topel 1994). Interestingly, while some earlier studies (e.g. LaLonde and Topel, 1991, and the studies reviewed in Friedberg and Hunt 1995) found only very small effects of large immigrant inflows to U.S. urban areas on unskilled natives, these more recent studies find considerably bigger effects on a regional or national level. Thus Borjas et al. conclude that immigration to the U.S. contributed materially to the declining earnings and employment opportunities of high-school dropout workers, and Topel concludes that, between 1973 and 1990 "immigration of unskilled Asian and Hispanic workers reduced the wages of unskilled natives in the [U.S.] West by about 10 percent" (p. 21).

Unfortunately, although we know that immigrant "quality" (in the sense of earnings relative to natives upon arrival) has recently been declining in Canada (e.g. Baker and Benjamin 1994; Bloom, Grenier and Gunderson 1995) there has been essentially no research on the impacts of immigration on the wages of unskilled or skilled Canadians. (This is partly because of the small size of our country, with only three cities as its major immigrant destinations). To the extent that Canadian immigration has a smaller unskilled component (which seems likely given the smaller role of illegal immigrants and the Canadian point system), one would suspect less of a deleterious effect of immigration on unskilled Canadian workers, but no hard evidence on this point exists.

Overall, immigration of unskilled workers to Canada could have had some negative impact on the wages of unskilled Canadians, though the magnitude of this effect is hard to judge from available evidence. It is, however, also important to note that, like high-school dropouts, very highly skilled workers may also be overrepresented in immigrant flows to Canada and the U.S. (for example, Freeman and Katz (1994, p. 47) report the education distribution of immigrants to the U.S. in the 1980s was actually bimodal). Thus, in addition to depressing wages at the very bottom, immigration could also work to compress the very top of the wage distribution. Also important to note is a key distinction between the effects of immigration of unskilled labour and the effects of increased imports of unskilled-labour intensive goods, discussed in a following section. Unlike imports, which are confined largely to the manufacturing sector, unskilled immigrant workers are able to compete directly with Canadian workers employed in the non-traded, service sector, where the great majority of unskilled Canadians are in fact now employed. This aspect of immigration should work to accentuate any negative effects it may have on the labour market outcomes of unskilled Canadians.

Demand Shifts

Under labour demand shifts, we mean factors which change the number and kind of workers Canadian firms wish to hire at any particular wage rate. There are at least three such factors which could have caused a major change in labour market polarization over the last 15 years: expanded international trade, technological change, and the increased international mobility of capital, especially in the form of foreign direct investment. In what follows, we consider these explanations in turn.

Increased International Trade

While most economists tend to favour freer international trade for efficiency reasons, a number of economists (e.g. Borjas et al. 1992; Wood 1994; Freeman 1995) have recently expressed the view that increased openness of North American and European economies to international trade may have increased inequality in those countries by hurting their unskilled workers. These analysts point to the well known Heckscher-Ohlin model of international trade, which predicts (a) that freer trade with less-developed countries should lead developed countries to increase their imports of goods whose production uses a lot of unskilled labour, and (b) that this trade, while efficient in the sense of raising total domestic (and world) income, will have adverse effects on the wages and employment prospects of unskilled workers living in developed countries.[1]

Empirically, supporters of this "trade" hypothesis note that current trade patterns between the "North" and the "South" are indeed highly consistent with the predictions of the Heckscher-Ohlin model. (Northern exports to the South are highly intensive in the use of skilled labour; imports from the South are intensive in unskilled labour). These analysts also point out that the recent decrease in unskilled workers' wages occurred concurrently with a considerable increase in developed-country imports from low-wage less-developed countries (for example, Freeman notes that imports from less-developed countries rose from 14 percent of all U.S. imports in 1970 to 35 percent in 1990). Closely related is the finding that the timing of the recent increase in U.S. inequality is remarkably consistent with trends in the U.S. manufacturing trade deficit, confirmed in two studies (Murphy and Welch (1988); Borjas and Ramey (1994)).

In more detail, Murphy and Welch (1988) examine the impact of changing trade patterns on wage differentials. Using a supply and demand framework they make qualitative predictions that agree relatively well with observed changes in the structure of wages. They conclude that increased international trade may be partially responsible for the growing disparity in the U.S. in the 1980s. Borjas and Ramey (1994) use time series analysis to compare alternative explanations for the trends in U.S. wage inequality. They report that the only variable which consistently shares the long run trend of their wage inequality series is the durable goods trade deficit as a percentage of GDP. Their wage inequality series is constructed for the 1964-1991 annual demographic files of the U.S. CPS.

Finally, Karoly and Klerman (1994) estimate a panel model of U.S. regions, finding again a strong correlation between the manufacturing trade deficit and the increase in wage inequality. In a recent review, however, Burtless (1995) questions whether the Borjas/Ramey and Karoly/Klerman results would stand up if the sample period were extended beyond 1988, when the U.S. trade deficit improved but inequality continued to rise.

In addition to the above economy-wide studies of trade and inequality, the effect of import competition on industry labour markets has been confirmed in a number of more disaggregated studies. One common empirical strategy in these studies is to regress reduced form equations for changes in wages and employment including some measure of international competition. Aggregate industry data is usually employed. Import competition varies considerably across industry (Abowd and Freeman, 1990). The use of industry data is however criticized by Dickens (1988) who argues that important intra-industry adjustment costs are being missed. The main issue is the choice of the measure of international competition.

The crudest measures of international competition are measures of value or volume of trade. The import penetration ratio (imports divided by the sum of imports and domestic shipments) and the export supply ratio (exports divided by domestic shipments) are commonly employed. Volume or value measures are problematic because they may reflect changes in tastes or production conditions at home. Consequently, import prices are considered a preferable measure of import competition. Until recently, import price data was not available. Import unit value indices have been used as a proxy for unavailable prices but are subject to compositional changes (Revenga 1990).

Freeman and Katz (1991) use value measures of import competition and other data from the NBER Trade Data Files to estimate wage and employment effects of international competition in a supply and demand framework.[2] They find a correlation between volume of imports and employment but only a weak relation with wages. Abowd and Lemieux (1991) estimate wage and employment effects of international trade in both Canada and the U.S. employing bargaining unit data rather than the more common industry aggregates (of course, this limits their study to the unionized sector). They have volume of trade and import price data for Canada but volume of trade data only for the U.S.. They report large effects of import penetration on union employment. The results on wage effects are mixed. With the Canadian data their results do not depend on the measure of international trade they employ. Consequently, Abowd and Lemieux argue that theoretical objections to the use of value or volume measures of trade are not of practical significance.

Grossman (1986) uses import price data in his study of the steel industry and concludes that import competition is not a cause of injury. In a similar study of nine manufacturing industries between 1969 and 1979 (Grossman, 1987) he found a correlation between wages and import prices in two industries and a significant employment effect in only one. While the use of import prices is preferable to volume of trade measures, Revenga (1990) points out that the treatment of import prices as exogenous may be inappropriate if the domestic market is large relative to world market. Further, if productivity shocks affect both domestic wages and employment and import prices the estimation of reduced form equations for wage and employment effects will suffer from a correlation between the error term and an explanatory variable (import prices). These endogeneity problems will lead to downwardly biased OLS estimates.

To circumvent these difficulties Revenga (1990) employs an instrumental variables approach. Revenga studies thirty-eight U.S. manufacturing industries between 1977 and 1987. Using industry source weighted exchange rates she finds a moderate but significant effect of international competition on wages and employment. Dollar appreciation between 1980 and 1985 seems to have reduced wages by two percent and employment by between four and one half and seven and one half percent. Employing OLS estimation techniques with the same data leads to insignificant results, suggesting an endogeneity or omitted variable problem (as predicted).

Finally, an important and recent study in this area draws a link between increasing foreign competition in a particular subset of concentrated, durable goods industries (in particular, nine 3-digit Census industry groups, including autos, iron and steel and household appliances) and the **aggregate** increase in U.S. wage inequality (Borjas and Ramey, 1995). Finding that international trade trends can explain as much as half the recent employment declines in those industries, Borjas and Ramey calculate that this loss of high-wage employment of unskilled workers in turn can explain about 7 percent of the economy-wide increase in wage differentials between more- and less-educated workers in the U.S. in the 1980s.

Overall, existing studies suggest that, at least for the U.S., increasing import competition in certain sectors made at least some contribution to the decline in unskilled men's wages. Whether the same is true for Canada is not clear, however, since Canada's exchange rate during the 1980s may have insulated its manufacturing industries from the pressures experienced in U.S. manufacturing. Interestingly, Head and Reis (1995) find that decreasing protection of Canadian manufacturing between 1987 and 1992 under the Canada-U.S. free trade agreement explains some of the changes in relative Canadian and U.S. manufacturing shipments, but they do not link these changes in shipments to changing wages or wage distributions.

Skill-Biased Technological Change

While there is no a *priori* reason to expect efficiency-increasing innovations to increase or decrease firms' relative demands for skilled versus unskilled labour, a number of economists have recently expressed the belief that the kinds of innovations recently made possible by the explosion of computing power tend to be "biased" in favour of skilled versus unskilled labour.[3] If So, then technological change could be an important explanatory factor behind the recent increase in wage and earnings polarization.

While many econometric studies treat "technological change" as a residual factor to be invoked when all other explanations fail (e.g. Bound and Johnson 1992), some more direct evidence on the role of technical change in firms' decreasing demands for unskilled labour has recently become available. For example, in a study of 450 U.S. manufacturing industries, Berman, Bound and Griliches (1994) use data from the Annual Survey of Manufactures, the Census of Manufactures and the NBER trade data. These data provide information on output and non-labour input by industry (labour input (employment) by industry are added from the Current Population Survey (CPS) data). They report a dramatic increase in the share of nonproduction workers in manufacturing. Coupled with rising wages this suggests a demand shift—either technology or trade. According to their calculations, only 1/3 of this shift is attributable to shifts between industries — i.e. a decline in production-worker intensive industries and a rise in nonproduction worker employing industries. This portion is attributable in turn to defence procurement and to some extent trade. The great majority of the shift however is attributable to shifts **within** the 450 manufacturing industries defined by 4 digit SIC codes. They claim these within industry shifts are largely unrelated to trade or defence procurement, and thus suggestive of labour saving technical change. They do find that these residuals are correlated with investments in computers and Research and Development expenditures. So they conclude that technical change is the major demand shifter. They review some other evidence, placing weight on case studies done by the BLS which support their hypothesis. They also cite work by Machin with results similar to theirs.

In one of the few papers which considers more than one possible explanation of the increase in U.S. wage inequality at a time, Bound and Johnson (1992) compare four hypotheses (trade led to a change in the demand for skills, a decline in union power and manufacturing employment dissipated rents, technological change, and a slow-down in rate of growth of college educated population (cohort effects). Interestingly, again largely because of a within- versus between- industry argument, they conclude that technical change was the primary cause of changes to the wage structure.

In the UK, Schmitt points out that the 1980s were characterized by technological or work organization changes **within** industrial sectors, not a decline of manufacturing in favour of services. This drove the UK's increase in demand for skilled workers. Machin (1995) also analyses changes in the UK demand for skilled labour. Finally, however, a recent study of firms' use of production versus nonproduction labour in Canada by Lee (1995) produces some fascinating, but puzzling, results. In contrast to the Berman, Bound and Griliches results for the U.S., and also in contrast to the trends in twelve

OECD countries and most developing countries, Lee claims that the share of nonproduction workers in manufacturing employment actually **increased** in Canada between 1970 and 1990. Lee interprets this as being consistent with factor substitution away from skilled, nonproduction labour (which did become relatively more expensive over the period), which in turn could have resulted from (and mitigated the effects of) international trade-induced demand shifts unfavourable to unskilled workers. Thus Lee's results do **not** suggest that skill-biased technological change played an important role in changing the relative use of skilled and unskilled labour by Canadian manufacturing firms.

Overall, recent research in the U.S. and some other countries suggests mat skill-biased technological change played a role in the decreasing demand by manufacturing firms for unskilled (production) labour. While this suggests that skill-biased technological change might help explain some of the recent decline in real wages of unskilled Canadians, especially men, there are at least two important cautions one must bear in mind before drawing this conclusion. First, manufacturing is no longer a very big sector of the economy in either Canada or the United States. Thus, technological changes in **nonmanufacturing** firms, about which much less is known, are probably much more important in determining the overall relative wages of skilled versus unskilled workers in any economy. Second, recent research by Lee (1995) suggests that, at least between 1970 and 1990, Canada may have been an exception to the trends in the skill structure of manufacturing employment noted in the U.S. and other countries: no overall, or within-industry, shift towards the use of nonproduction workers occurred here. More Canadian work on this question is clearly needed.

International Capital Mobility

Another demand-shift factor that might explain labour market polarization in North America is the increased international mobility of capital, particularly in the form of foreign direct investment in plant and equipment. To what extent is the relocation of production facilities into low-wage developing countries, greatly facilitated by recent advances in communications and transportation technology, responsible for declining wages of unskilled workers in North America? Interestingly, while some calculations (e.g. World Bank, 1995, pp. 61-64) suggest that these factors have not, as yet, been of major importance for workers in the "North," this area has to date been largely neglected by economists studying changes in wage structure.[4] While clearly seen to be of major importance by some political scientists and non-economists (e.g. Reich 1992), little hard quantitative evidence on the overall importance of this factor for developed countries has to our knowledge yet been produced.

One very recent exception to this, again for the U.S., is a working paper by Slaughter (1995). For the 1980s he finds that foreign outsourcing contributed very little to the shift in labour demand toward more skilled workers in U.S. manufacturing. In fact, some of his estimates suggest that foreign and domestic production labour may be **complements** rather than substitutes, So that increased access to cheap foreign labour may even **raise** firms' demand for production workers at home.

Before concluding from studies like Slaughter's that international capital mobility has not (at least yet) had an important effect on unskilled workers' wages in the U.S. or Canada, it is important to note one point: studies such as Slaughter's can only capture the effects of **actual,** as opposed to **threatened,** capital mobility. If a firm can extract wage concessions simply by (credibly) threatening to move its Canadian production facilities to Mexico or Indonesia, wage effects can occur in Canada without the need for any capital to actually move. Detecting such effects in traditional labour market data is of course very difficult, So it is hard to know how important this factor is in labour markets overall.

Institutional Factors

In addition to the classic economic forces of market supply and demand, changes in the legal and institutional structure of labour markets can also give rise to changes in wage structure of the kind that have recently been observed in Canada. At least two such factors have been examined in the existing international literature on changing wage structures: unions and collective bargaining, and minimum wage laws. A third set of factors-the changing nature of labour contracts and human resource practices at the firm level-has been subject to much less quantitative research, but is widely referred to in more anecdotal and case-study-based discussions of recent trends.

Unions and Collective Bargaining

One set of factors to receive considerable attention as possibly contributing to the rise in wage inequality in the U.S. and elsewhere are changes in union density and collective bargaining arrangements. Higher unionization rates tend to operate to directly reduce wage inequality in three ways. The first two of these are **direct** effects. (1) To the extent that unions disproportionately organize low-wage workers, and raise the wages of those workers, the fact that unions tend to raise their members' wages will act to reduce inequality. And (2), it is common for unions to adopt "standard" wage policies within firms, and "solidarity wage" policies across firms and industries, which reduce wage differentials among union members. Finally, in a time of increased global competition, unions can have effects on labour market inequality and unemployment by the way they **mediate** the effects of increased international competition (discussed in the previous section) on industrial labour markets. We consider these "direct" and "mediating" effects in turn below.

(a) Direct effects of unions

The empirical labour economics literature yields a number of important examples of how changes in the collective bargaining structure of a country appear to be associated with increases or decreases in the degree of wage polarization in those countries. For example, several authors have noted the coincidence of the precipitous decline in union coverage in the U.S. with the increase in wage inequality (and particularly the decline in the fortunes of low skilled workers) in that country. An early example is Freeman (1991) and additional support is provided by DiNardo, Fortin and Lemieux (1995).

Other authors find support for this thesis in international comparisons. For example, Canada has experienced some decline in private sector unionization but nowhere near the collapse in union coverage witnessed in the U.S.. At the same time, the growth in earnings inequality has been significantly less in Canada than in the U.S.. To pursue this idea more carefully, Lemieux (1993), estimates the effect of unions on wage inequality in Canada and compares those estimates to existing ones for the U.S.. His overall conclusion is that differences in union coverage account for some 40 percent of the difference in wage dispersion between Canada and the U.S..

A union-based explanation of changes in wage structures is also consistent with the fact the only country rivalling the U.S. inequality increase is the UK, particularly during the Thatcher years of declining union power. Leslie and Pu (1994) evaluate competing explanations for the steep rise in UK wage inequality and conclude that changes in institutional pay setting arrangements were the main cause. Schmitt (1995) also suggests that UK institutions (unions, wage councils, income policies) may have delayed the rise in inequality relative to U.S., a point to which we return below.

While suggestive and thought-provoking, an important caution in interpreting these cross-national associations between changes in collective bargaining arrangements and wage structure concerns what economists would call the potential endogeneity of those bargaining arrangements. For example, while it is tempting to ascribe, for example, Canada-U.S. differences in the increase in wage inequality to the much larger decline in union density in the U.S., it is important to remember that changes in union density in turn may be, at least in part, just the product of more fundamental forces such as the trade and technological pressures discussed earlier. Some evidence of this can be found in a paper by Abowd and Farber (1987), who investigate the effect of international competition on union organizing activity. They argue that the costs of organization rise with the fraction of an industry that is unionized, while the benefit, an increased ability to extract quasi-rents (due to an enhanced bargain position) falls. Thus there is an optimal level of organization in each industry. Increased international competition will decrease quasi-rents per worker available and lower the optimal level of organization. This in turn should reduce organizing activity. While their calculation of quasi-rents is troubling (employing the same alternate wage in every industry) and the regression equations they estimate are derived from an arbitrary adjustment rule, they do find an empirical correlation between union organizing activity and changes in the quasi-rents per worker available in an industry. Their results thus support the view that, rather than unionization trends being an autonomous source of change in wage structure, both unionization and wage structure trends are the product of a third factor, ie. increased international product market competition.

Overall, regarding changes in collective bargaining arrangements as sources of autonomous change in wage distributions, we conclude that, even when we recognize the potentially endogenous nature of bargaining arrangements, they may still have been important **proximate** causes of changes in wage distributions in certain countries, like the U.S. and UK, which experienced significant declines in union power during the 1980s. They may also be important in explaining why increasing inequality was less severe in Canada than those countries, since Canada experienced no such major decline in union representation. By the same token, however, they cannot explain the wage polarization which did occur in Canada over this period, since they did not change significantly in this country over that period of time.

(b) Unions and other institutions as "mediators"

Turning now to how unions (and other national wage-setting institutions such as the minimum wages) **mediate** an economy's responses to trade- or technology-induced shifts in demand against unskilled workers, we first make note of a currently popular hypothesis on this subject, espoused among others by the Organization for Economic Cooperation and Development (OECD). The basic idea is simply that, if a country has a centralized collective bargaining system with the power and desire to maintain narrow wage differentials among workers, if it has high and binding minimum wage laws, and/or if it has a generous social safety net providing an income floor to unemployed workers, technology- and/or trade-based reductions in the demand for unskilled labour may not be allowed to translate into wage reductions for those groups. An unfortunate possible byproduct of this system, as the OECD has pointed out, is that these groups may then end up being priced out of the labour market, and thus unemployed, sometimes for long periods of time. Certainly, the fact that unemployment, and especially long-term unemployment among less-skilled workers, has increased much more in those countries with relatively stable wage distributions (Canada, continental Europe) than those with large wage shifts (the U.S.) is consistent with this hypothesis. Wood (1994) makes this argument generally, while Katz, Loveman and Blanchflower (1995) use it with regard to France and Abraham and Houseman (1995) discuss it in the context of Germany.

Having made note of the "OECD hypothesis" and some suggestive evidence in its favour, it is however worth reminding ourselves of some other, previous theoretical perspectives on this issue that can be quite different from those suggested by the "OECD" hypothesis. For example, Freeman and Katz (1990) argue that union wage differentials will act as a buffer, absorbing the trade shocks with **increased** wage flexibility and minimizing employment effects. Grossman (1984), on the other hand, develops a model of trade impacting a unionized trade sector where the union is characterized by a seniority layoff system and majority rule. His model, like the OECD hypothesis, predicts wage **inflexibility;** hence adjustment is entirely through employment. Lawrence and Lawrence (1985) present a model of "endgame bar-gaining." A union, seeing no future for a declining industry, tries to extract as much as possible in the short run. Their model goes beyond union real wage rigidity to predict **increased** union wage demands in the face of rising international competition. Finally, Abowd and Lemieux (1991) propose that changes in demand or import prices will change the quantity of quasi-rents available in an industry. Quasi-rents are divided between firms and unions through an efficient bargaining solution. They predict that an increases in quasi-rents will increase employment. Wage effects will be determined by the change in quasi-rents per worker. Thus one can think of plausible theoretical models of the way unions mediate the effects of inter-national competition on wages which go in either direction.

Empirically, there is little hard evidence on whether the "OECD" hypothesis of real wage rigidity or other models better describe the different ways that highly unionized and other economies respond to trade- and technology shocks adversely affecting unskilled workers. One recent attempt to address this question, however, is a paper comparing adjustment in Canada, the U.S. and France, by Card, Kramarz and Lemieux (1995), who find that changes in wages and unemployment rates across age and education groups are **not** consistent with the view that an institutionally-induced, rigid real wage floor combined with demand shifts against unskilled workers explains the current high levels of French unemployment.

Finally, it should be pointed out, however, that proponents of these "institutions as mediators" stories, like many economists who analyze institutions, are also guilty of treating those institutions in a simplistic, static way. For example Card, and Kramarz and Lemieux (1995) try to capture the greater flexibility of the U.S. labour market relative to Canada and U.S. with a single adjustment parameter for each country. They hold this parameter constant throughout the 1980s-a period when we know that the both the rate of unionization and the level of the real minimum wage were falling rapidly in the U.S.. Differences between the way in which highly unionized, versus less unionized economies respond to trade and technology shocks is something we still know very little about, and which may depend as much on the **structure** of collective bargaining and other institutions in a country as on just the amount of union representation.

Minimum Wages

A second institution to receive considerable attention in the literature on rising wage inequality is the minimum wage. The role of the decaying real value of the minimum wage in increasing U.S.. wage dispersion has been investigated by Blackburn, Bloom and Freeman (1990) and by DiNardo, Fortin and Lemieux (1995). The latter authors apply nonparametric techniques to data from the CPS covering the years 1979 to 1988. They provide quantitative and striking visual evidence of the role of minimum wages in compressing the bottom of the wage distribution and hence reducing overall wage inequality.

Overall, have declining minimum wages been responsible for increased wage polarization in Canada? Certainly, like the U.S., Canada has experienced a considerable erosion in the real value of the minimum wage, which is now lower in all provinces than it was in the late 1970s (Benjamin 1995). While, to our knowledge, no one has examined the relation between these declines and the Canadian wage structure in any detail, any such study would need to ask the following question: to what extent did provinces allow the real minimum wage to erode precisely because of a fear of disemployment effects given the weak state of market demand for unskilled workers over this period? Thus, while declining minimum wages may have played a role in **allowing** the wages of unskilled Canadians to fall, the same endogeneity issues arise when interpreting the minimum wage evidence as the evidence on unions' effects.

Changing Human Relations Practices

Another set of institutions whose changes are cited as potential causes of changing wage distributions, especially in the business and case-study literature, are changing human relations practices, and the changing nature of the employment contract at the level of the firm. Examples of such policies include the increased use of outside contractors and temporary workers rather than "permanent" employees, and the increasing concentration of employment in small firms and self employment. Concerning the latter, there is an extensive labour economics literature documenting the positive association between firm size, wages and job quality more generally (e.g. Brown and Medoff, Morisette). To our knowledge, however; no one has yet attempted to draw a link between firm size trends on the economy-wide level and increased polarization of job quality. Regarding self employment, it is certainly well known that earnings of the self-employed are lower and more variable than others', and that self-employment rates are rising. But, as many or most of the studies of wage polarization cited earlier exclude the self employed from their calculations, and that even today self employment is not a very large portion of the labour force, increasing self employment cannot explain much of the increased wage inequality of the last 20 years.

Concerning other, subtler aspects of the employment contract, like contracting out, two points should be made. First, as for the trends in nonage aspects of job quality discussed in Chapter 2, while lots of anecdotal evidence has recently surfaced, little broadly representative survey evidence, especially regarding trends over time in these aspects, is available. Second, the link between these practices and earnings instability and inequality, while plausible, remains to be established.

Chapter Summary

Explanations which have been proposed by various authors to explain increasing wage polarization, largely in the United States but in some other countries as well, fall into three main categories: labour supply shifts, labour demand shifts, and changes in labour market policies and institutions. Under labour supply shifts, we include changes in the relative supply of skilled and unskilled labour within a country, which can arise from either (i) changes in the fraction of the population with higher education, (ii) large changes in labour force participation rates, such as have occurred among women, and (iii) immigration and/or emigration of labour. On balance, while some of these factors play an important role in determining the ultimate size of a country's increase in inequality, most analysts (ourselves included) do not believe that such supply-shift factors constitute the major sources of changes in wage structure that have recently occurred in developed countries. This is because, in most cases, these factors worked in directions which should have either reduced inequality, or at least had ambiguous effects on it: the growth in education should have (and probably did) operate to narrow, not widen education-based wage differentials in Canada; immigration (because it tends to involve the "tails" of the wage distribution) should have reduced wages of the most-skilled relative to the average worker, and women's labour force activity increased at all skill levels, while offering little direct competition with the unskilled men who were most affected by declining wages over this period. Still, this does not mean that supply factors are unimportant: Canada's greater increase in education levels may have played a role in ensuring that our increase in education-related inequality was less than that in the U.S.

Among factors which may have caused significant labour demand shifts in developed countries over the last 20 years, the two which have received the most attention are the dramatic increase in international trade, and the rapid pace of technological change in modern industry. At the moment, there remains some dispute over which of these two factors has been the more important. Analysts favouring the "technology" explanation point out that manufacturing industries which have had the greatest increases in skilled labour demand (as measured, imperfectly, by the share of nonproduction workers in employment) are also those which have made the biggest investments in "new" technologies (as measured, again imperfectly, by factors like computer use). They also point out that most of the increase in skilled labour demand has occurred within fairly detailed industry groupings, which goes against the notion that trade-induced changes in the mix of goods produced, away from those requiring large inputs of unskilled labour, have been primarily responsible for reducing the demand for unskilled workers. As well, they argue that observed relative wage changes in the source countries for new, cheap-labour- based imports (such as Mexico for the U.S.), because they also involve an apparent increase in demand for skill, are inconsistent with the trade-based explanation. Another objection to the "trade" story concerns the behaviour of goods prices: some analysts have claimed that, rather than falling, as a pure trade story would predict, the relative prices of unskilled-labour intensive goods has been rising in the U.S.. This claim has however recently been questioned in empirical work by Krueger (1995).

Analysts favouring the "trade" explanation point out that much trade with low-wage countries actually does occur **within** detailed industry groupings, and thus that much of the trade-induced specialization of developed countries in the production of skill-intensive goods could have occurred within narrowly-defined industries. Further, once one recognizes the existence of a third kind of labour ("extremely" unskilled, illiterate workers who are largely shut out of the formal labour market) in developing countries, it becomes possible for trade with the "North" to raise inequality in developing countries like Mexico as well as in the "North". Finally, these analysts note that the timing of the recent increase in U.S. inequality is remarkably consistent with trends in the U.S. manufacturing trade deficit.

In short, while both increased trade and technological change are likely to be of some importance in decreasing the relative demand for unskilled labour, more research is required to determine their relative importance for Canada, as well as other countries. Another, relatively neglected, demand-shift factor that requires more attention is the increased international mobility of capital: while most calculations indicate that this has not been a major factor affecting unskilled Canadian and U.S. workers yet, its potential importance in the near future could be tremendous.

Chief among the policy/institutional explanations for rising inequality in some developed countries are trends toward de-unionization and/or decentralization of collective bargaining, trends in minimum wage legislation. Comparing Canada and the U.S., for example, some analysts have attributed the much greater increase in U.S. inequality to the much greater decline in collective bargaining coverage in that country. In our assessment, while changes in unionization probably played some role in widening the wage distribution in certain countries, and while they may explain why those countries experienced greater wage polarization than Canada, they are not likely to be important factors in explaining the labour market polarization which has occurred in Canada in recent years. While real minimum wages were eroded in Canada, and while this may be connected with the increase in wage inequality among Canadians, it is not clear whether these minimum wage declines were largely responses to weak labour market conditions for unskilled workers. Further, it has been proposed, but certainly not demonstrated rigorously, that institutionally-induced rigid wages in Canada and some European countries may be responsible for our higher rates of unemployment than, for example, in the United States. Finally, certain changes in firms' personnel practices, such as increased contracting out, have been cited as potential contributors to declining unskilled workers' wages in Canada as well, but little hard evidence of such a connection exists.

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3. Trends in Unemployment and Labour Force Participation

Introduction

This chapter addresses the behaviour of unemployment and labour force participation in Canada and other developed economies over the past several decades. It thus complements the survey of wages and other measures of job quality in the preceding chapter. While the primary focus will be a review of trends in unemployment, it is also appropriate to include some discussion of the behaviour of labour force participation over this period. This will turn out to be particularly important for Canada since changing participation rates have meant that trends in the unemployment rate (the number of unemployed persons as a proportion of the labour force) have *not* been matched by parallel trends in the employment rate (employment as a proportion of the population).

Before proceeding, it is important to note two overarching points. First, while the definition of employment is relatively clear cut, the definition of unemployment is not. Although reporting of job search within some defined period and similar requirements (e.g., availability for work, knowledge of a future job start date) are common in developed countries, these practical definitions are not implemented in exactly the same way in different economies. Also, even within Canada, such definitions and the surveys on which the measurement is based have changed through time. More generally, there are inevitably questions about exactly where a line should be drawn (if at all) between the polar extremes of active searchers and persons withdrawn from the labour force who would be most unlikely to take any (reasonable) job offer.

Second, as the definition of unemployment is inevitably somewhat blurred, so is the meaning that one attaches to a given level of unemployment. Traditionally, unemployment is seen as a waste of scarce resources, imposing both a cost on society as a whole as well as a cost on the individual concerned. While this view clearly contains much validity, there is no unambiguous way to assess such costs. Frictions in the labour market may have to translate into unemployment as workers and job are matched in a process that takes real time, SO perhaps the traditional view should apply to unemployment beyond this level associated with turnover. Certainly, reallocation of labour could not occur with no frictional unemployment. Thus, the interpretation placed upon a given level of unemployment may depend on an appropriate assessment of the turnover, or natural, rate of unemployment. And it is likely that such rates differ in any country through time and internationally in a given time period. Furthermore, information on the overall level of unemployment summarizes information on the incidence and the duration of unemployment, components of the overall level that may have quite different consequences for individual and societal welfare. Finally, as with measures of wages and job quality, a potentially important issue in assessing welfare implications will be the distribution of unemployment experience across individuals in the population, although this is something on which there is currently relatively scant evidence.

Unemployment in Canada and the U.S.: Recent Trends

The Canadian unemployment rate increased dramatically in the 1980s and the 1990s both relative to its own past performance in the post Second World War era and relative to the U.S. unemployment rate. National 10 year averages have risen continuously from around 4 percent in the 1950s and 5 percent in the 1960s to 6.7 percent in the 1970s and 9.5 percent by the 1980s. In the 1990s the (seasonally adjusted) unemployment rate rose above 10 percent early in 1991 and stayed stubbornly in double digits until almost the close of 1994. Since then, the unemployment rate has been very stable around 9.5 percent, accompanied by a failure of the strong employment growth (of 261,000) experienced in 1994 to be continued in 1995; by November 1995, overall employment was only up 34,000 over the 1994 year-end figure, for example. These most recent employment figures have failed to keep pace with growth in the working age population (roughly a 1.7 percent annual growth rate in recent years) , so that the Canadian employment/population ratio has declined in the past year.

Compared to the U.S. economy, which has also experienced some worsening in the performance of its labour market over this broad time period, the Canadian economy experienced an unemployment rate that averaged two percentage points higher than the corresponding U.S. figure during the 1980s, with the gap reaching almost four percentage points in 1984. More recently, performance in the 1990s has lagged behind the U.S. economy significantly, with the unemployment rate gap being consistently around four percentage points. Significantly, whereas the unemployment gap of the 1980s was almost entirely a result of differences in the division of the non-employment labour market states in Canada and the U.S., the gap of the 1990s has also reflected a failure of Canada to recover the employment rate from the pre-recession years. The Canadian employment rate (seasonally adjusted) was 58.4 percent in November 1994, down from around 62.5 percent in 1989 and 1990. In contrast, the U.S. employment rate reached a peak of 63.3 percent in March 1994 that exceeded its 1989 and 1990 levels.

In terms of regional and other demographic subgroups, there are a number of highlights to report. The distribution of Canadian unemployment worsened regionally over the past 20-30 years, with Eastern Canadian experience being the most striking in the periods 1974-80 and throughout much of the 1980s (Gera, 1991, p.7). However, the West also experienced a substantial rise in unemployment through the 1980s. Overall, Cohen (1991) reports that the 18 percent rise in unemployment in the period 1980-89 was made up of a 3 percent fall in unemployment in Ontario and Quebec and a 60 percent rise in unemployment elsewhere. More recently, Ontario's average unemployment experience has moved much closer to that on Canada as a whole; in 1993, for instance, Ontario's unemployment rate of 10.6 percent was only slightly below the national figure of 11.3 percent. Evidence in 1994 and 1995 confirms this gap of less than a full percentage point.

When broken down by age, the trend through the 1980s was for youth unemployment to comprise a declining proportion of total unemployment (Cohen, 1991), partly due to a decline in unemployment incidence among youth, but also due to the falling cohort size as the baby boom cohorts ended and to changing patterns of labour force participation. In recent years, youth unemployment rose sharply in 1990-92, reaching levels over 18 percent, with a modest decline to around 15 percent towards the end of 1994, a decline that has recently been reversed.

By sex, women's unemployment rates were typically higher than those for men in the 1970s and early 1980s, although the 1982-84 period was harder on male unemployment and the gap, which had been almost two percentage points in the earlier period, closed almost completely by 1985. In the 1990s male unemployment rates were consistently higher than those for women, the difference being between one and two percentage points in 1991 and 1992, declining to about half a percentage point (9.8 for men, 9.2 for women) in 1995 January-November 1995 figures).

These aggregate unemployment figures are, as noted above, composed of both unemployment incidence and duration. In the LFS, information is collected on the average duration of unemployment (of those currently unemployed); note that this measure is of an interrupted duration, rather than of the length of a completed spell. Reviewing the past 20 years, this measure stood around 15 weeks in 1977-81, rose in 1982 and 1983 to peak at 22 weeks, steadily declined over the rest of the 1980s to reach 17 weeks in 1990, and then rose again in the 1990-92 recession to reach over 23 weeks in 1992. Corak (1993c) has also developed a measure of the average completed duration of unemployment for a group of individuals beginning their spell of unemployment in the same period; this avoids some of the problems associated with using the interrupted spell variable. Using Corak's measure, the average completed durations were actually very similar in 1983 (19.5 weeks) and 1992 (19.6 weeks), even though the overall unemployment rate was higher in 1983. However, he found that in the 1990s, the exit rate from unemployment was higher at short durations (up to three months) and lower for the long-term unemployed, leading to a "polarization" of unemployment experiences that may contribute to a greater persistence of unemployment even in the event of economic recovery. Recent evidence corroborates these findings. Average (interrupted) duration rose to 25.7 weeks in 1994 (Perspectives, Spring 1995 supplement, p.8), a huge increase from 16.9 weeks in 1990, and the proportion of the unemployed made up by the long-term (1 year plus) unemployed rose from 6 percent in 1990 to 15 percent in 1994.

With regard to the definition of unemployment, and the behaviour of potential alternative definitions, Devereaux (1992) tracks the properties of nine measures (Rl-R9) that can be constructed from the information in the monthly Labour Force Survey. In the 1990-92 period, most of these measures moved in tandem with the official unemployment rate (R5), some being higher and some being lower on average. The measures that reflect long term' unemployment (Rl, unemployed 14 or more weeks), the part-time labour force (R9) and an unemployment rate based on hours (R8) worsened in the 1990-92 recession more than the official rate. A measure of unemployment broadened to include discouraged workers (R7) behaved very similarly to the official rate while the unemployment rate for heads of families with children (R2) did somewhat better than the official rate.

Patterns of labour force participation (LFP) in Canada over the past two decades can be broken down into a number of distinct time periods. First, there was a period of trend increase in labour force participation overall until the deep recession hit in the early 1980s with the rate rising from below 62 percent in 1976 to nearly 66 percent by 1981. The labour force participation rate then declined somewhat in the recession, although in fact this decline was only about one percentage point and was relatively short-lived. The rate continued its pre-recession trend increase in 1983 and peaked at 67.8 percent at the start of 1990. Since then, Canadian labour force participation has exhibited a steady decline, reaching 64.4 percent by November 1994.

These aggregate trends mask separate patterns for labour force participation by sex. For men, the long-term pattern has been one of gradual decline in labour force participation; in 1953, 82.9 percent of men were in the labour force, a figure that had fallen to 73.4 percent forty years on, primarily as a consequence of early retirement. For women, in contrast, the period since 1953 has seen a more than doubling of the rate of labour force participation (from 23 percent in 1953 to 57 percent in 1993, e.g.), However, this strong upward trend for women appears to have ended in 1991, driven largely by clear declines in the rate of labour force participation for Young women in the 15-24 age range and by some downward drift even for adult women in the 25-34 age range; in recent years, older adult women have not experienced such a decline in labour force participation.

This difference among women by age group is mirrored by overall age group differences in the rate of labour force participation. Youths (aged 15-24) suffered a larger decline in employment rates in the 1990-92 recession than in the 1981-82 recession and participation rates have fallen as a consequence. By November 1994, the youth participation rate was 61.2 percent, a 20 year low.

Relative to the U.S., participation rates overall were relatively similar towards the end of the 1970s but diverged thereafter. Throughout the 1980s the Canadian rate of labour force participation was higher than that in the U.S., typically by a little more than one percentage point. However, around the end of the decade when the Canadian rate peaked and then began to decline quite sharply, the U.S. rate of labour force participation only dipped slightly during the recession of the early 1990s and then slowly recovered from about 1992 onwards. This produced a reversal in the ranking on the two participation rates, with the U.S. rate now clearly higher, accompanied by a large difference in the relative employment/population rates.

Other International Evidence on Trends in Unemployment

Although the contrast between the overall unemployment experiences of Canada and the U.S. is a large one (especially given other similarities in the two economies) , so there is naturally a focus on explaining the sources of this particular difference, an alternative perspective is provided by consideration of the unemployment experiences of other developed economies. In a wide ranging and comprehensive study (OECD 1994), the OECD provides information on unemployment in the OECD as a whole (including eastern Germany from 1991), as well as on individual member nations. Overall, OECD unemployment averaged under 10M throughout the 1950s and 1960s, but tripled between 1972 and 1982, with particular upwards jumps in the immediate aftermaths of the two major oil price shocks in 1974 and 1979. Recently, the figure has gone even higher, with the recovery in the 1982-90 period being more than erased by a peak of 35M in the early 1990s higher than the 30M reached at the previous major cyclical peak.

Across various natural groupings of national economies, the picture naturally departs somewhat from this average (OECD 1994, Chart 1.12, p.35). The European Community had a small trend decline in unemployment rates (reaching rates of 2-3 percent) until the mid-1960s followed by a gradual rise from about 1970 onwards. The unemployment rate, starting around 6 percent, rose sharply starting around 1980, a little after the second oil price shock, and continued to rise and then plateau at the high level of over 10 percent until 198687. Then followed a small decline to under 9 percent by 1990, with a rebound into double digits by the mid-1990s.

In contrast, EFTA (Finland, Norway and Sweden) had only modest unemployment rates through most of this period, with rates usually staying below 4 percent until around 1991. Thereafter, the Nordic economies have undergone a large change in their experience, reaching rates of nearly 8 percent. Japan has also had historically low rates of unemployment, often between 2 and 3 percent, and, unlike the EFTA economies, these rates barely rose in the 1990s.

In terms of trends in labour force participation, a common theme has been the decline in male participation rates and the rise in female participation rates across many OECD economies. The decline in male labour force participation since 1960 has been gradual but consistent in almost every member economy, with rates from 90 to 97 percent in 1960 falling to the 80 to 90 percent range in the early 1990s. The European Community is now at the low end of the scale of OECD experience, with male labour force participation below 80 percent. Across most economies, this decline for men has been particularly concentrated among individuals with low skill levels. The growth in female labour force participation, which has been strongest in North America, has been seen in more moderated form in Europe and, since the end of the 1970s, in Japan. Closely correlated with trends in service sector employment, the rise in female labour force participation has offset the drop in male labour force participation in many but not all economies. In North America, and especially in the U.S., the aggregate rate of labour force participation has risen by close to ten percentage points from 1960 to 1990, a pattern also seen in EFTA, Australia and (recently) Japan. However, Europe has experienced a stable or falling aggregate rate of labour force participation in the 1960-90 period and, with labour force participation around 67 percent, stands 6 to 10 percentage points below the rates of labour force participation in other OECD economies.

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4. Explaining Unemployment Trends: Hypotheses and Evidence

Introduction

The goal of this chapter is to survey and summarize current hypotheses and evidence regarding the trends in unemployment detailed above in Chapter 3. As with the preceding treatment of changes in wages and other job attributes, the chapter cannot be comprehensive in its coverage of all of a voluminous literature. Rather, it seeks to elucidate the principal themes in this body of work and to discuss the main contributions made by research in each area. Also, while we will naturally relate Canadian experience to that elsewhere in the developed world, notably in the U.S., the chief focus will be on the usefulness of various approaches to explaining the evolution of Canadian unemployment.

Following the themes developed in the literature, then, this chapter is organized as follows. First, in Section 2 we briefly discuss issues relating to the measurement of unemployment in Canada and elsewhere. Since there is one significant measurement difference between Canada and the U.S. with regard to unemployment, this issue turns out to have some explanatory importance for the Canada-U.S. unemployment rate gap. Following this, Section 3 discusses measurement of the "natural rate of unemployment" in Canada, with particular discussion of contributing factors such as sectoral imbalance and mismatch, changing demographics, minimum wages, and the breakdown of unemployment into cyclical and other components. Section 4 takes this debate one step further by addressing the idea of "hysteresis," the proposition that there may not in fact be a well-defined natural rate. The various theories underlying such extreme persistence of unemployment are surveyed and empirical evidence, both microeconomic and macroeconomic, is assessed. As the final broad area of investigation, Section 5 pays particular attention to the role of UI in the Canadian unemployment experience, surveying a burgeoning literature that has sought to reconcile the Canada-U.S. comparison of UI programs with a comparison of the program within Canada over the past 25 years. The chapter summary in Section 6 reviews the main conclusions.

Definitional and Measurement Issues

Most developed countries adhere to a relatively uniform procedure for the definition and measurement of unemployment following broad guidelines established by the International Conference of Labour Statisticians, coordinated through the International Labour Office (see, e.g., Sorrentino (1993), OECD (1995a)). According to this approach, an unemployed person must be, in a particular reference period, without employment, engaged in some sort of job search, and available to start work. Exceptions to the search requirement include those awaiting future job starts at a definite date in the near future and persons on temporary layoff; members of this latter group are usually counted as unemployed in North America but as employed (with zero hours) in Europe and Japan. Although exact details of implementation differ across countries, both with regard to questionnaire wording and survey design, this general approach does permit some cross-national comparability of unemployment rates.

One particular area in which there is a difference in measurement that could be important concerns the exact nature of the job search requirement. In Canada, such search can include both "active" job search, such as applying to firms or visiting a Canada Employment Centre, and "passive" job search, which amounts to reading newspapers and other sources for suitable job advertisements. In contrast, the U.S., unusually for a developed economy, excludes passive job searchers from the ranks of the unemployed. As first apparently noted by Zagorsky (1994), this difference could be of some potential importance for explaining the Canada-U.S. gap, although one difficulty is matching up the timing of the emergence of the gap with any change in the measurement procedures.

To consider which definition might be more sensible, Jones and Riddell (1996a) have investigated transition rates into employment using the Survey of Job Opportunities (SJO) matched to subsequent Labour Force Survey (LFS) behaviour. This permits a follow-up approach where the researcher can look at the future consequences (in April, say) of a particular type of job search (in March). In addition to numerous other hypotheses, Jones and Riddell investigate the breakdown of average transition rates from unemployment into employment by job search method used. Examining data annually from 1981 to 1992 (excluding 1990, when the SJO was not administered), they find that, for job searchers who reported use of only one method, the "Looked at Ads" category had lower rates of transition into employment than "Contacted Employers" and "Other," although the lowest average rate of transition was found among those searchers who only used the Public Employment Agency. Similarly, among those with multiple reported search methods, the transition rates of those who "Looked at Ads" tended to be low, although the differences across types of search were naturally less in the multiple methods case. Thus, this piece of Canadian evidence suggests some weak rationale for the U.S. approach that excludes passive searchers, although the yet poorer performance of those who visit CEC's (and Quebec provincial employment agencies) argues against such a dichotomy of search methods.

Overall, whether the U.S. or the more standard Canadian approach to measurement of unemployment is the more informative, the key question remains of how much quantitative difference this measurement issue makes. Macredie (1996) provides an answer to this issue, which is that using 1993 data, the U.S. definition excluding passive job search would have generated a Canadian unemployment rate of 10.4 percent, rather than the 11.2 percent recorded in the official statistics. Thus, at this time period about a fifth of the overall gap (4.4 percent in 1993) might be attributable to the U.S. measurement approach. Moreover, there is some reason to think the contribution of this measurement difference might be larger in times of deeper recession (when the proportion of unemployed engaged in only passive job search might be expected to rise), periods when the Canada-U.S. gap has been larger. Thus, while it is clearly not enough alone, there is some limited scope for reducing the measured Canada-U.S. unemployment gap by adopting a consistent method of measurement.

Related to this point is the behaviour of those not in the labour force over the period when the Canada-U.S. unemployment rate gap emerged. Card and Riddell (1993) pointed out that throughout most of the 1980s, while the unemployment rate gap emerged, it was not accompanied by a divergence in the employment to population ratio. Rather, as subsequent work has further clarified (Card and Riddell (1995)), the non-employment rate throughout most of the 1980s was only modestly above that in the U.S., and certainly did not reflect the dramatic difference in labour market performance suggested by the relative unemployment rates. Alternatively put, the Canadian rate of participation in the labour force, which had been clearly below that on the U.S. in the early post-war period through the 1960s, and which was roughly on a par with U.S. experience in the 1970s was above the U.S. rate of participation through the 1980s.

These differences are further explored by analysis of the gross flows of labour in the two economies by Jones and Riddell (1996b). This work addresses the behaviour of the nine transition probabilities between pairs of the three labour force states in 1976-94, and they subdivide the results into three periods. Based on the observed transition matrix in each sub-period, they can then calculate the implied stationary distribution for that period (ie., the levels of Employment, Unemployment and Non-Participation that would result in the absence of further shocks), and these figures can be compared with actual levels. For 1976-81, the Canadian stationary unemployment rate was implied to be 7.2 percent, compared with an actual rate of 7.7 per-cent (U.S. figures are 5.3 and 6.3, respectively). In the early period of the gap, 1982- 89, the stationary rate in Canada was 9.2 percent, less than the actual 9.8 percent (U.S. figures 6.8 and 5.6, respectively). And recently, as macroeconomic conditions have diverged quite sharply, the Canadian stationary rate was 9.9 percent, compared with an actual rate of 10.3 percent (U.S. figures 6.3 and 5.4 respectively). Overall, they find particular differences in the relative behaviour of the transition probabilities between Unemployment and Not in the Labour Force, as well as the transition probability from Employment to Not in the Labour Force in the two countries, results that are largely consistent with those of Card and Riddell but based on quite different data.

More recently, as noted above in Chapter 3, the apparent puzzle highlighted by Card and Riddell has been replaced by a greater divergence of the two national unemployment rates and an associated rise in Canadian non-employment. In the 1990s, therefore, the comparative macroeconomic performance of the two economies, with the U.S. growing significantly faster than Canada, has been of key importance, and the search for explanations of why Canadians report more non-employment time as unemployment has lost some of its urgency.

The "Natural Rate" of Unemployment

One unified theoretical approach that has been followed to explain the behaviour of Canadian unemployment is to study the so-called "natural rate of unemployment," the rate towards which it is hypothesized the economy would converge in the absence of any new shocks and disturbances, and then to consider fluctuations, particularly cyclical fluctuations, around this natural rate. One recent survey of the causes of Canadian unemployment that follows this approach in some detail is Poloz (1994), building on work by researchers including Ford and Rose (1989), Burns (1990,1991a, 1991b), Rose (1990), and Setterfield, Gordon and Osberg (1992).

In many modern implementations, the natural rate is interpreted as the "non-accelerating rate of unemployment," the NAIRU, an implementation that has clear empirical content depending on whether inflation is rising or falling, in contrast to the difficulties associated with measurement of the more loosely defined "natural rate." Ford and Rose (1989) estimate an Okun's Law equation jointly with a Phillips curve and find an important role for demographic changes in the determination of the NAIRU, but only weak evidence of a role for UI parameters. Overall, their work yields a NAIRU of around 8 percent by the end of 1987. In a more lengthy survey of alternative methods, Rose (1990) highlights the large uncertainty must be attached to such numerical estimates. For the period since the 1971 UI reforms, for example, the estimated NAIRU from the Bank of Canada's RDXF model is reported as having a point value of 10.4 percent, with a 95 percent confidence interval spanning 7.9 per-cent to 12.9 percent, a very large range. System estimates including an Okun's Law relationship put the figure at between 8 and 9.3 percent by 1987, though these results are very sensitive to the inclusion or exclusion of the years 1982-85. Similarly, the other NAIRU figures show considerable diversity, depending on factors such as the measurement of inflationary expectations, the characterization of the role of the unemployment insurance system, the measurement of wage or price changes, and the treatment of growth in productivity.

This conclusion of uncertainty about the level of the natural rate or NAIRU is underlined by Setterfield, Gordon and Osberg (1992), who go so far as to argue that no restrictions are placed on the Canadian NAIRU by conventional statistical procedures. Reasonable empirical Phillips curves that obey a number of technical criteria (such as absence of serial correlation in the errors and significant coefficients of the appropriate sign) yield a very wide range of feasible NAIRU estimates. For 1956-87, such specifications yield NAIRU figures (for prime age males) ranging from 4.5 percent to 9.9 percent. In this time period, the reported rate of unemployment for this group had a low of 2.5 percent and a high of 9.3 percent. Also, of course, each such point estimate has standard errors associated with it, so that a reasonable 95 percent confidence interval probably covers all experience of the reported unemployment rate over this time period.

Poloz (1994) extends some of this work by first discussing sectoral shifts, "mismatch" of workers and skills, and the general idea of rising frictional unemployment, although the extent of hard evidence on intersectoral shifts is quite thin (see, e.g., Prasad (1993)). He also addresses the role of demographics, building on the work of Rose (1990), pointing out that recent trends in female labour force participation are no longer consistent with this aspect of changing demographics driving a trend rise in the NAIRU. Similar conclusions are reached, using data through the end of 1993, by Côté and Hostland (1994). Poloz also addresses the contributions to the NAIRU of changing minimum wages (see also Fortin, Keil and Symons (1994)) and movements in rates of unionization. The former effect moves in the wrong direction for the most part, with declines (relative to average wages) in 1975-85 and rough constancy in 1985-90, although the changes in Ontario in the 1990s have of course increased the minimum somewhat. Similarly, unionization rates, which Côté and Hostland (1994) found to have contributed to a small NAIRU growth in the 1970s, clearly declined in 1985-90 but exhibited some recovery in the 1990s, although the effect on the NAIRU from these changes is surely small. Finally, Poloz examines evidence on payroll taxation, motivated by the apparent sharp increase in such taxes (from about 10 percent to about 14 percent) in the recent period 1989-93. Here, the evidence is unclear and it is econometrically difficult to separate this effect from other influences on the NAIRU. More fundamentally, this work does not really address the question of the incidence of such taxation, something that is critical in the determination of its overall employment effects.

Persistence and "Hysteresis"

One important extension of research on interpreting and measuring the natural rate of unemployment is that dealing with strong forms of unemployment persistence, and particularly with the concept of "hysteresis." Stemming from the apparent empirical failure of traditional macroeconomic approaches to the natural rate, especially the co-existence of fairly high inflation and persistently high unemployment, some researchers abandoned the search for structural determinants of a changing NAIRU (a search of the type documented in the preceding section). Instead, they chose to think about the natural rate as being time-varying and dependent, not just on exogenous structural factors, but on the very history of unemployment itself. A large macroeconomic shock that throws many out of work could not only raise the unemployment rate in that period but also generate long-lived (or even permanent) effects through processes such as deskilling and human capital loss during unemployment.

There is by now a large literature on hysteresis, both theoretical and empirical, recently surveyed and extended in some areas by Jones (1995a). For present purposes, the primary coverage will be of empirical contributions that are relevant to the Canadian labour market. Also, it should be noted that one can conceptualize hysteresis at both a microeconomic and a macroeconomic level. In the case of unemployment, for example, hysteresis might arise from duration dependence if individuals have a harder time finding a job later on in an unemployment spell. However, depending on the circumstances and the structure of the overall model, such micro-economic effects may or may not add up to a macroeconomic effect observed in the rate of unemployment (see especially the discussion in Jones (1995a, p.120)). Thus, in what follows we focus on the macroeconomic literature on hysteresis, a literature that grew out of the empirical investigation of Phillips Curves.

The theoretical framework for most macroeconomic investigation of the possibility of hysteresis is simple. Beginning with an expectations-augmented Phillips curve

$$\pi_t = \pi_{t-1} + b(u_t - u_t^*)$$

where π_t, is the rate of inflation, u, is the rate of unemployment, and u_t^* is the "natural" rate of unemployment, all as of period t. The first term serves to proxy expectations of inflation and might include a number of lagged inflation terms. For hysteresis, the key idea is that the current "natural" rate may depend not only on structural and demographic variables, here termed x_t (with a coefficient vector *a*), but also on the past value of the unemployment rate itself:

$$u_t^* = hu_{t-1} + ax_t$$

Substitution then yields

$$\pi_t = a\pi_{t-1} + b(u_t - hu_{t-1} - ax_t)$$

$$= a\pi_{t-1} + b(1-h)u_t + bh(u_t - u_{t-1}) - bax_t$$

and hysteresis is the case of h = 1 when the level of the unemployment rate does not enter the Phillips curve but when the change of the unemployment rate is present.

Early macroeconomic work on the potential for hysteresis in Canada included McCallum (1987, 1988), Phaneuf (1988) and Fortin (1988, 1989), all of which investigated empirical frameworks analogous to that sketched above and failed to find evidence for hysteresis. Cozier and Wilkinson (1990,1991) used this exact approach and formulate an expectations-augmented Phillips curve imposing the so-called "accelerationist" restriction that the coefficients on lagged values inflation sum to one. So doing enables a representation of the Phillips curve in terms of changes in the inflation rate of inflation, together with a term in the output gap (the extent to which output deviates from an equilibrium or potential level) that turns out to be important in their analysis.

Using quarterly data for the period 1963Q3 to 1988Q4, Cozier and Wilkinson examine changes in the rate of price inflation (measured by the GDP deflator) and allow for changes in commodity and oil prices and a dichotomous variable that indicates the operation of the AIB. With the lagged level and contemporaneous change in the output gap included in the specification, both variables have significant positive coefficients. In an alternative formulation, the level and change variables for output are replaced by analogous labour market variables. With all other controls as before, the level coefficient on the unemployment gap is significantly negative, while the change coefficient is insignificantly different from zero. In either specification, Cozier and Wilkinson find an important level effect, rejecting hysteresis and implying that the effects of a permanent disinflation are temporary.

The one key exception in the pattern of findings on hysteresis in Canada is a paper by Fortin (1991) that was the Innis Lecture at the Canadian Economics Association Annual Meetings. Although the specification is broadly similar to that used in Fortin (1989), here the novelty is that additional lagged values of the change in the (adult male) unemployment rate are included. This change alone yields few new results when applied to the 1957-84 period used in earlier work. However, when the sample also includes the six annual observations for 1985-90, Fortin rejects parameter stability between the two periods and investigates a potential structural break, which he places in 1973. By this simple change that allows some variables in the estimated equation to have different coefficients for the periods 1957-72 and 1973-90, Fortin finds that the results can change in a surprising way.

Imposing price homogeneity, Fortin's preferred model (Equation 1-4 in his Table 1) allows the constant term and the coefficients on the contemporaneous unemployment level and change terms to differ in the two sub-periods, while introducing the two annual lagged values of the unemployment change term only for the 1973-90 years. This equation displays conventional properties for the 1957-72 sub-period, with mildly "negative" hysteresis and an implied natural rate of 4.8 percent. For 1973-90, however, the level effect of unemployment becomes insignificant while the current change variable has a coefficient of -0.38 with a standard error of 0.14. This is strong evidence of positive hysteresis. If one then drops the constant and level effect, the resulting estimated model displays full hysteresis and a temporary change in unemployment has no long-run effect on the inflation rate. More recently, Fortin (1993) extends this analysis using comparative aggregate data for Canada for 1973-90 and for the U.S. for 1966-90. This work confirmed the previous Canadian results of hysteresis and found similar effects for the U.S., a result that is perhaps surprising in view of the subsequent behaviour of the U.S. unemployment rate.

Two pieces of evidence suggest that Fortin's results are not robust, however, and lead to doubt as to whether hysteresis in this form is a good explanation of the trend rise in Canadian unemployment. First, Poloz and Wilkinson (1992) examine the Fortin (1991) and Cozier and Wilkinson (1991) studies primarily with regard to alternative *data sources*, to assess the source of their disagreement in results. While there are many details in their meticulous replications, the key insight they provide is that, using alternative measures of the natural rate or of potential output, alternative data frequencies (annual or quarterly data), alternative measures of the rate of inflation, and so on, the results that support hysteresis are by and large fragile, while the results that reject hysteresis are much more robust.

Second, Jones (1995a, Chapter 5) also examines the methods used in Fortin (1991) and Cozier and Wilkinson (1991) but allows for alternative forms of model specification (while sticking to the original datasets). In particular, he investigates alternative error structures, sample periods, break points, inclusion or exclusion of lagged variables, data periodicity and so on. Again, there are many results that could be reported, but their overall message is quite clear: the evidence in favour of a hysteresis reading of Canadian unemployment is fairly thin, while the evidence against this view is comparatively robust.

Finally, it is appropriate briefly to mention some recent work done at the Bank of Canada that extends analysis of labour market hysteresis in Canada. Laxton, Shoom and Tetlow (1992) find (by a simulation) that problems in measuring potential output generate a downward bias in the estimated level effect and an upward bias for the estimated coefficient for the change in the output gap, bath biases that could lead to a spurious finding of hysteresis. Relatedly, Laxton, Rose and Tetlow (1993a) simulate a model with a non-linear Phillips curve and show that, with standard univariate measures of potential output, the econometrician is likely falsely to reject non-linearity. Also, Laxton, Rose and Tetlow (1993b) employ a multivariate filtering method to use information about inflation in identifying potential output (and hence the output gap). They find evidence of non-linearity in Canadian annual data for 1973-91, as did McCallum (1988). One niggling open issue is whether measures of an output gap generated from a non-linear model themselves would yield similar results: those used in this paper are produced from a linear specification but are then employed to yield a non-linear preferred model.

Overall, while the apparent trend increase in unemployment in many economies, including Canada, is undoubtedly suggestive of an explanation based on hysteresis, the available evidence on the co-movement of inflation and unemployment cannot be said to support such an explanation for Canada. While one can find a dataset and a specification that is not inconsistent with hysteresis, such results are fragile and are inconsistent with the broad scope of evidence and results now available.

The Role of Unemployment Insurance

At a broad level, few commentators appear to doubt that the growth of the Canadian UI system in 1971 has played a role in the rise of unemployment. It might be note-worthy, however, that econometric evidence from the years shortly after the major 1971 change found (after some debate) comparatively small macroeconomic effects (Grubel, Maki and Sax 1975a, 1975b; Green and Cousineau 1976; Kaliski 1975) and, with one exception to be discussed below, most subsequent reforms have made the UI system tighter and less generous. Certainly, relative to the U.S., the Canadian system is much larger and more comprehensive, and this national difference may have remained or even grown larger as the Canadian system downsized more slowly than that in the U.S. This said, it has been less clear that any particular change in the degree of generosity can be related to the divergence of Canadian and U.S. unemployment experience following the recessions of the early 1980s. The major expansion of Canadian unemployment insurance in 1971 which does not square well with the timing of the discrepancy in unemployment rate being in the 1980s, though, interestingly, Blank and Card (1991) suggest that the extent of unemployment insurance coverage in the U.S. did drop in the early 1980s. Despite the widespread impression that such a UI program difference must be important, it has often proved fairly elusive, at the level of more detailed empirical analysis, to pin down the exact quantitative disincentive effects from UI that could have given rise to the large movements in the national rate of unemployment. This section will review some of the main findings from research on Canadian UI and its effects on unemployment.

The influential work of Ham and Rea (1987), one of the first careful studies of Canadian UI based on microeconometric evidence, uses data from 1975-1980 extracted from the Longitudinal Labour Force File at Employment and Immigration Canada. Their sample is only men and, using the administrative UI program data, they deal with two forms of potential duration dependence (the way in which the probability of a UI claim ending varies with the claim's elapsed duration). First, if one holds entitlement to UI constant, a person may display (genuine) duration dependence induced by a variety of unobserved factors. Examples might include changes in the perceived wage offer distribution, changes in the intensity of job search with duration or changes in the financial liquidity constraints as resources are exhausted at longer durations. Second, even absent such factors, one form of duration dependence Will likely be induced by the UI program itself, as fewer remaining weeks of eligibility may lead a worker to become increasingly willing to accept a lower quality job. The key difference between these two types of duration dependence is that an individual's remaining eligibility for unemployment insurance benefits can be observed in the administrative data, whereas the other factors could generate true duration dependence may be unobserved.

Ham and Rea's results need to be interpreted with caution since there are potentially serious problems with their data. The demographic information is very thin and, for most of the period covered, wages are not recorded above the insurable maximum. Since wages observed above the UI maximum value generate independent variation in wages and benefits, the absence of such data means that the wage on the job prior to the UI spell may be very collinear with benefits. This said two results are evident. First, UI *potential* exhaustion effects seem to be important: in various econometric models, the estimated hazard (conditional transition probability) out of unemployment into employment rises at about 24 weeks. Second, once allowance is made for this "entitlement effect," the estimates show a hazard that declines with duration, even when nonparametric unobserved heterogeneity allowance is incorporated following Heckman and Singer (1984). The overall conclusions are as follows: (i) the hazard declines in the early weeks of an unemployment spell; (ii) the hazard is fairly constant for most of the interval between 10 weeks and 40 weeks; and (iii) the estimated hazard turns up towards the longest durations, though a small sample at these durations means that this upturn is probably not statistically significant.

Some of these results are also reflected in the work of Belzil (1990), a paper that also employs EIC long file data. In Belzil's case, the period covers from January 1972 through December 1984. Addressing a longer time frame than Ham and Rea, Belzil finds two main results. First, estimated UI effects persist beyond the current spell of unemployment, mainly by affecting the job match quality and enabling the worker to find more enduring employment. Second, given this, there is no further evidence of lagged duration dependence; an additional weeks unemployed in the current spell does not substantially alter the chance of leaving the subsequent employment spell.

Both of these studies, like many others in the burgeoning literature on Canadian UI, do not permit much quantitative assessment of the overall impact of UI on levels of unemployment and do not directly address changes in UI legislation that might have played a role in the rise of Canadian unemployment in the 1980s and beyond. One important contribution to this policy debate, however, was provided in a paper by Milbourne, Purvis and Scoones (1991). They examined the contribution of extended UI benefits and in particular of a change (apparently minor) in UI policy made in 1977. This change had two main elements. First, "national extended benefits" were ended. Second, "regional extended benefits" were redesigned. Replacing the 1971 provisions based on regional unemployment rates relative to the national average, the regional benefit rules introduced in 1977 meant that eligibility for UI rose by four weeks for every one percentage point that (a moving average of the past three months) regional unemployment rate exceeded 4 percent, with a ceiling at an additional 32 weeks of eligibility. The key observation by Milbourne, Purvis and Scoones was simply that, as many UI regions experienced very high unemployment in 1981-82, this regional benefit provision led to a substantial rise in maximum weeks of UI eligibility. Milbourne, Purvis and Scoones present approximate figures based on province-level data that suggest that the national average of maximum UI benefit weeks (weighted by provincial labour force size) increases from 24 weeks in 1981 to around 40 weeks by 1983, and only slowly declines in the years after that.

Milbourne, Purvis and Scoones proceed in two directions with this insight. At a microeconomic level, the exposit a straightforward classical microeconomic model of labour supply where unemployment is just leisure and where each agent falls into one of three groups: nonparticipants (who never work or receive UI), UI users (who always work the minimum qualifying period and collect benefits for the maximum eligibility period), and the employed (who always work). Agents differ by an unobserved taste (for leisure) parameter and hence this framework has two critical cutoff levels that split the population into three groups. These critical values are shown to be affected by the UI system parameters (such as the lengths of the qualifying period and the period of benefit eligibility) so that the unemployment rate does respond to exactly the sort of change generated by the 1977 legislation and the deep recession of 1981-82. If wages are kept constant, a longer benefit period raises unemployment duration for current users of the unemployment insurance system and can also have effect on incidence (reducing UI incidence among the existing users while raising UI incidence among previous nonparticipants). If wages are endogenous, however, the model's equilibrium rate of unemployment depends in an ambiguous way on the eligibility period, something that perhaps confounds the interpretation Milbourne, Purvis and Scoones chiefly promote.

Empirically, Milbourne, Purvis and Scoones's evidence is macroeconomic and involves adding UI parameters to a simple first order autoregressive model of monthly unemployment. The estimates show some role for the policy parameters, with the autoregressive coefficient on monthly unemployment falling to 0.776 (t-statistic 7.89) for the period 1978:6-1988:3 when such UI variables are included, compared with a coefficient of 0.904 (t-statistic 9.31) in a richer dynamic model (Table 1, p.807) without the inclusion of the UI policy parameters. The authors note that this point estimate of 0.776 is very close to the figure of 0.780 (t-statistic 8.97) found for the period 1966:7-1978.5 in the model without policy variables, suggesting that UI controls are responsible for the apparent increase in persistence after 1978. Moreover, a dynamic simulation of unemployment that uses actual output figures and allows for *feedback* from the forecast unemployment rate in one year to the benefit eligibility figure for the next, is able to track the time-path of reported unemployment quite well, whereas removing the policy-induced feedback leads to overestimates of unemployment prior to 1982 and to significant underestimates after that date.

In a narrow sense, the Milbourne, Purvis and Scoones model does not do well in explaining observed patterns of unemployment, especially with regard to microeconomic unemployment data. Unemployment spells have many different lengths, with average unemployment duration being much below the maximum eligibility period, in contrast to the exact predictions of the Milbourne, Purvis and Scoones microeconomic model. On a broader level, however, the issue is rather more complex.

Two pieces of evidence on the Milbourne, Purvis and Scoones view are presented by Card and Riddell (1993) (and are extended to individual data and in other directions in the follow-up paper Card and Riddell (1995)). First, using family heads reported as unemployed in the 1987 LFS (Survey of Consumer Finances), they examine individual employment histories for the preceding year to determine weeks of work for qualification for UI. Based on unemployment rates by labour market region, Card and Riddell are able to calculate each individual's (hypothetical) maximum weeks of UI eligibility for June of each year for the period 1972-89, and these figures are aggregated over UI regions using weights based on the 1981 population. Compared with data on average UI claims (about 21 weeks in 1983, e.g.), this generated series has quite different level (about 48 weeks in 1983), but the two series moved quite closely together until the early to mid-1980s. For 1985-89, however, the eligibility figure has markedly fallen, a consequence of the overall decline in unemployment in the late 1980s while the average duration of claims has stayed high (over 18 weeks) into 1989. If UI policy parameters played a major role in affecting incidence or duration in the early 1980s, this divergence suggests that the importance of this role declined greatly later in the decade.

Second, Card and Riddell's (1993) furnish evidence on unemployed persons' employment patterns in the preceding year. Among men, the increase in non-employment time spent unemployed is large for those with 0, 10 and 12 weeks of employment in the preceding year, while, for women, this increase is rather more even across employment experiences (but with some grouping around 10 or 12 weeks and 20 weeks). Card and Riddell interpret the 10 and 12 weeks spikes for both sexes and the 20 week peak for women as, in part, responses to UI incentives (on this, see also Green and Riddell 1993b), but the grouping at zero weeks of employment is more difficult to view as generated by UI. Relative UI recipiency rates between Canada and the U.S. they cite indicate that, among persons with zero weeks of work, recipiency *fell* in Canada in the 1980s. When this group makes up a large part of the growth in unemployment, it is hard to interpret this as the result of growing laxity in UI.

Corak and Jones (1995) provide more direct evidence on the Milbourne, Purvis and Scoones approach by examining administrative data from the Canadian UI program. In their simple account, they detail the numbers of UI claimants in the regional extended benefit phase of a claim and study how these numbers vary with the recession on the 1980s. Regional extended benefit recipients amounted to 18.5 percent of all claimants in 1978, rising to 28.1 percent in 1984 before falling to 24.1 percent by 1989. Equivalently, if the Count of regional extended benefit claimants had remained at the 1981 level throughout the 1980s the rate of unemployment would have been 0.8, 1.6 and 1.2 percentage points lower in 1982, 1983 and 1984, respectively. While not trivial, such an effects does not lead to the conclusion that regional benefits were the primary or direct mechanism behind the persistence of the early 1980s. At a minimum, indirect effects (such as from the potential length of UI benefits to the number of overall claims) would have to be particularly strong for the 1977 changes to have had any major role, given the lack on evidence of direct effects.

Another strand of research on UI effects has been the study of repeat claims. Corak (1991b, 1993a, 1993b) uses the UI administrative records to document the nature of repeat use and to estimate various models of the determinants of such repetition. Starting in 1971, Corak denotes any subsequent spell for an individual by a "sequence number" and shows that, as the system appears to be in some sort of steady state (with regard to repeat usage), most spells are not first spells. In 1985, for example, about 40 per cent of male spells have a sequence number of 5 or higher, while the corresponding figure for women is closer to 20 per cent. Relatedly, first spells are only about 20 percent of all UI claims (for both sexes) in 1989. Clearly, the UI system involves much repeat use.

However, it is not clear what an appropriate benchmark should be for the assessment of repeat use. Even absent any true state dependence (whether duration dependence, occurrence dependence or lagged duration dependence), it is natural to expect repeat use of UI since many factors specific to the person or to an economic situation will be fixed or recurrent. Exactly how much repetition in usage should be expected from such a view (termed the "neoclassical model" by Corak) is very hard to quantify, but it bears repetition that evidence of considerable repeat use does not necessarily state dependence. Some recent work by Lemieux and MacLeod (1995) has sought to model repeat use with allowance for unobserved heterogeneity (i.e. with control for a fixed personal effect), although the results are rather mixed.

Overall, this brief review of a large and diverse literature on UI and its effects on unemployment must conclude by agreeing with the lengthier survey by Corak (1994b), who also fails to find much convincing Canadian evidence at the microeconomic level of a link between UI and unemployment durations. Recent quasi-experimental work by Jones (1995b) on the labour market effects on recent legislative changes to UI (Bill C-113) has the advantage over some past work that the source of the program variation is exogenous, although the findings are again consistent with the apparently weak behavioural effects found in much other work. Although most studies find some effect from UI, either directly on unemployment durations or indirectly through UI entrance requirements affecting employment durations (and hence unemployment incidence), and although these effects often have the appropriate sign, it is fair to conclude that the magnitude of effects identified has not been large, relative to the magnitude of movements in Canadian unemployment in the 1980s and 1990s.

Conclusions

The current state of research in explaining trends in Canadian unemployment is one of many limited and partial successes, accompanied by a failure for all these partial successes to add up to the big picture. Measurement issues do play some role, especially when comparing Canadian unemployment with that of the US., but the contribution from this factor is surely not large. Attempts to characterize the Canadian "natural rate" have led to a wide range of estimates and little precision in understanding the causes of change in the natural rate has been achieved. One promising avenue of extreme unemployment persistence, that of hysteresis, now seems likely to have been a blind alley, at least in the form that it has currently been conceptualized. Finally, the many studies of Canadian UI, of which some but not all have been explicitly discussed here, have generated interesting results and deepened our understanding of how program parameters can affect many aspects of labour market behaviour. But such studies have not really generated a satisfactory explanation for the overall movement of the unemployment rate, perhaps because UI is not really behind the changes in unemployment over the past two decades. One remaining direction to consider is to turn back to the evidence and hypotheses on trends in job quality, as discussed in the preceding Chapter, and to assess whether the theories of increased trade and/or technological change apply both to job quality and, with suitable institutional arrangements such as UI, to unemployment. Paradoxically, the greatest strength of this "OECD hypothesis" may be the apparent weakness of alternative labour market explanations of recent trends in unemployment.

TABLE OF
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5. Employment Protection Legislation in Canada, the United States, and

Europe

Introduction

Employment protection legislation (EPL) is any form of law that raises the time or money costs of firing or layoffs for firms. Examples include mandatory notice for mass layoffs; severance pay; requirements to consult local authorities and even experience rating of unemployment insurance benefits. While some form of employment protection laws are found in all developed countries there is considerable variation across countries (and across provinces in Canada) in the scope and stringency of such laws. The purpose of this chapter is to provide the details of this variation. We consider Canada, the U.S. and other OECD countries in turn.

Employment Protection Law in Canada

In Canada an employee is protected from wrongful dismissal by two main bodies of law. The first is Common Law which regulates the translation and implementation of private employment contracts. Labour contracts which are not of an established length of time can be discontinued in two ways; either by letting an employee go for cause or by giving the employee a "reasonable" amount of notice (Arthurs et al., 1981).

Legitimate causes are outlined by the jurisdiction's unjust dismissal laws and are usually further limited by provincial Labour Relations Acts and provincial Human Rights Codes. Since legitimate causes are not based on economic reasons Canadian common law normally requires giving the employee "reasonable" amount of notice. In the event of conflict what is "reasonable" is determined by a judge who must consider the practice in the industry and geographical area; the periodicity of payment (hourly, weekly, monthly, etc.); and the difficulty the employee will have in finding a new job. However, civil suits are only feasible for wealthier employees since they can be very costly, and the potential awards given for wrongful dismissal are based on the employee's earnings.

This brings us to our second body which protects employees from wrongful dismissal. All Canadian jurisdictions have introduced Mandatory Notice Statutes which are summarized in Table 3. In most Canadian jurisdictions mandatory notice depends on the duration of employment. Notice ranges from 1 week for relatively new workers to 8 weeks for workers with 10 or more years of experience, and an employee can be given pay in lieu of notice. It should also be noted that a number of Canadian jurisdictions require workers to notify their employers of their intent to quit, however it is debatable whether any effective remedies for non-compliance exist in this case (Employment Standards Legislation in Canada, various years).

TABLE 3:

TABLE 3:

Notice requirements for termination of employment, various jurisdictions in Canada, 1995.

Individual				**Mass**	
Jurisdiction	**Length of service**	**Employer notice (wks.)**	**Employee notice**	**Number of employees**	**Notice (wks.)**
Federal	3 months +	2	none	50 +	16
Alberta	3 mos - 2 yrs	1	2 wks .	No special provision	
	2 yrs - 4 yrs	2			
	4 yrs - 6 yrs	4			
	6 yrs - 8 yrs	5			
	8yrs-10yrs	6			
	10 yrs +	8			
British Columbia	6 mos - 3 yrs	2	none	No special provision	

	3 yrs	3			
	1 addit. wk for each addit. yr of employ.-max 8 wks.	8			
Manitoba	1 month +	1 pay period	same	50 - 100	10
				101 - 300	14
				300+	18
New Brunswick	6 mos - 5 yrs	2	none	10 or more, if they represent 25% of the employer's workforce	6
	5 yrs +	4			
Newfoundland	1 mo - 2 yrs	1	same	50 - 199	8
	2 yrs +	2		200 - 499	12
				500+	16
Nova Scotia	less than 2 yrs	1	same	10 - 99	8
	2 yrs - 5 yrs	2		100 - 299	12
	5yrs-10yrs	4		300+	16
	10yrs+	8			
Ontario	3 mos - 1 yr	1	if employed less than yrs, 1 wk if employed 2+ yrs, 2 wks	50 - 199	8
	1 yr-3yrs	2		200 - 499	12
	3 yrs - 4 yrs	3		500+	16
	4 yrs - 5 yrs	4			
	5 yrs - 6 yrs	5			
	6 yrs - 7 yrs	6			
	7 yrs - 8 yrs	7			
	8 yrs +	8			
Prince Edward Island	6 mos - 5 yrs	2	if employed 6 mos - 5 yrs, 1 wk if employed 5+ yrs, 2 wks	no special provision	
	5 yrs+	4			
Quebec	3 mos - 1 yr	1	none	10 - 99	2 mos
	1 yr-5yrs	2		100 - 299	3 mos
	5 yrs-10 yrs	4		300 +	4 mos
	10 yrs+	8			
Saskatchewan	3 mos - 1 yr	1	none	10 - 49	4
	1 yr - 3 yrs	2		50 - 99	8
	3 yrs - 5 yrs	4		100+	12
	5 yrs -10 yrs	6			
	10 yrs +	8			
Northwest Territories	90 days - 3 yrs	2	none	25 - 49	4

	1 addit. wk. for each addit. yr. of employment	8		50 - 99	8
				100 - 299	12
				300+	16
Yukon	6 mos +	1	same	25 - 49	4
				50 - 99	8
				100 - 299	12
				300+	16
Source: Labour Canada, Employment Standards Legislation in Canada.					

Stipulations are also made in the area of mass termination in eleven of the thirteen jurisdictions. The number of workers necessary to constitute a mass termination is usually fifty or more employees who must be terminated within a period of 4 weeks, from the same establishment in all jurisdictions except British Columbia which has a termination period of two months and Quebec which does not explicitly state a termination period. The amount of notice that must be given ranges from 8 weeks to 18 weeks depending on the number of workers let go. It should be noted that exceptions are provided for "unforeseeable circumstances" such as natural disasters in all the above mass termination cases.

Unlike Canadian common law, in most Canadian jurisdictions, employee remedies for non-compliance with minimum notice statutes are fast and relatively costless. The above is true partially because mandatory notice constitutes a component of most provinces" Fair Labour Standards Acts, which assign minimum standards for a wide variety of working conditions, and is governed under the corresponding mechanism. For example, in Ontario an employee only has to notify the Employment Standards office by mouth or by letter. The claim is then investigated and if the employer is found liable, they may be ordered by a judge to reimburse wages for the required notice period.

Employment protection legislation in some Canadian jurisdictions also includes severance pay for certain kind of layoffs. In the Federal jurisdiction the amount of compensation is not large, it consists of two days wages to be paid per year of service. In Ontario severance packages only apply to mass termination and employees with 5 or more years of service, however, the amount of compensation given is quite high, it requires one week of severance pay for each year of service to a maximum of 26 weeks.

Finally, in the employment protection legislation most Canadian jurisdictions with mass termination laws compel employers to establish and finance a "manpower adjustment committee" with worker representation to develop an adjustment program for workers and help workers in finding new employment opportunities. Further, the firms must advise and cooperate with local governments regarding the closure procedure.

Employment protection laws and mandatory notice requirements are not new in Canada. The Canadian common laws on notice have their origins from the English Statute of Artificers of 1563. Under this statute, no hirings could be for less than a year, and jobs were terminable only by showing adequate cause before two justices of the peace, or by a quarter's notice from either party (Jacoby, 1982). Due to the Industrial Revolution the notice requirements were not feasible for the new blue collar industrial occupations. Thus instead of requiring a three month period of notice, Canadian common law only required a "reasonable" amount of notice, and this still holds true today.

Tables 4 and 5 look at the trends in mandatory notice statutes from 1970 to 1995, where the former focusses on individual terminations and the latter looks at mass terminations. According to Table 4, individual notice guidelines only existed in half of the Canadian jurisdictions in 1970, however by 1989 all Canadian jurisdictions required notice of individual terminations, with 8 weeks being the standard requirement for workers with 10 or more years of employment. Table 5 indicates that only two jurisdictions had mass termination laws in 1970, while 9 out of 13 jurisdictions had such laws by 1989, and by 1995 this increased to 11 jurisdictions. Further, in the early 1980s the Federal and Ontario jurisdictions introduced severance pay requirements.

TABLE 4:

TABLE 4:

Notice requirements in Canadian Jurisdictions for individual terminations, 1970 - 1995* (in weeks)

Year: 19--

Jurisdiction	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
1. Federal		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2		2
2. Alberta				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	8	8	8	8		8		8
3. BC												8	8	8	8	8	8	8	8	8	8	8		8		8
4. Manitoba**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1		1
5. NB																4	4	4	4	4	4	4		4		4
6. Nfld.**	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2		2		2
7. N.S.	1	1	1	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		8		8
8. Ontario	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		8		8
9. PEI		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		4		4
10. Quebec**	1	1	1	1	1	1	1	1	1	1	1	8	8	8	8	8	8	8	8	8	8	8		8		8
11. Sask.	1	1	1	1	1	1	1	1	1	1	1	8	8	8	8	8	8	8	8	8	8	8		8		8
12. NWT																				8	8	8		8		8
13. Yukon																	1	1	1	1	1	1		1		1

Sources: Labour Canada; 'Labour Standards Legislation in Canada', various years.

Canadian Labour Law Reporter.

*Notice is calculated as the number of weeks of notice for a worker with 10 or more years of service, paid weekly.

**Prior to 1979 and 1981 respectively, and in Manitoba's case for the entire period, Newfoundland and Quebec's notice requirements were determined by worker's pay period.

TABLE 5:

TABLE 5:

Notice requirements in Canadian Jurisdictions for mass terminations, 1970-1 995* (in weeks)

Year: 19--

Jurisdiction	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
1. Federal		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		16		16
2. Alberta																										
3. BC																								18		18
4. Manitoba**				16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		18		18
5. NB																6	6	6	6	6	6	6		6		6
6. Nfld.**							16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		16		16
7. N.S.				16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		16		16
8. Ontario	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		16		16

9. PEI																										
10. Quebec**	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17		16		16
11. Sask.																					16	16				16
12. NWT																				16	16	16		16		16
13. Yukon																	16	16	16	16				16		16

Sources: Labour Canada; 'Labour Standards Legislation in Canada', various years.

Canadian Labour Law Reporter.

* Notice is calculated as total weeks required for layoffs involving 500 or more workers.

** After 1970, Quebec's notice requirements is actually 4 months.

TABLE 6:

TABLE 6:

General hours of work and overtime rates for various jurisdictions in Canada, 1995

Jurisdiction	Hours of Work		Overtime
Federal	Standard: Maximum:	8 in a day 40 in a week 48 in a week	>8 hours in a day or >40 hours in a week -11/2 times the regular rate
Alberta	Standard: Maximum:	8 in a day 44 in a week 12 hours in a day	>8 hours in a day or >44 hours in a week -11/2 times the regular rate
British Columbia	Standard:	8 in a day 40 in a week	>8 hours in a day or >40 hours in a week -11/2 times the regular rate >ll hours in a day or >48 hours in a week -2 times regular rate
Manitoba	Standard and Maximum:	8 in a day 40 in a week	>8 hours in a day or >40 hours in a week -11/2 times the regular rate
New Brunswick			>44 hours in a week -11/2 times the minimum wage
Newfoundland	Standard:	40 in a week	>40 hours in a week -11/2 times the minimum wage
Nova Scotia	Standard:	48 in a week	>48 hours in a week -11/2 times the minimum rate

Ontario	Standard: Maximum:	44 in a week 8 in a day 48 in a week	>44 hours in a week -11/2 times the regular rate
Prince Edward Island	Standard:	48 in a week	>48 hours in a week -11/2 times the regular rate
Quebec	Standard:	44 in a week	>44 hours in a week -11/2 times the regular rate
Saskatchewan	Standard: Maximum:	8 in a day 40 in a week 44 in a week	>8 hours in a day or >40 hours in a week -11/2 times the regular rate
Northwest Territories	Standard: Maximum:	8 in a day 40 in a week 60 in a week	>-8 hours in a day or >40 hours in a week -11/2 times the regular rate 10 in a day
Yukon	Standard:	8 in a day 40 in a week	>8 hours in a day or >40 hours in a week -11/2 times the regular rate
Source: Labour Canada, Employment Standards Legislation in Canada. Note: Most jurisdictions exclude managers, professional employees, farmers, and domestic servants.			

Employment Protection Laws in the United States

In the United States, there exists no legislation on individual mandatory notice. Plant-closing legislation in the form of the Worker Adjustment and Retraining Notification Act (WARN), only came into existence on August 4, 1988, and went into effect six months later. WARN requires firms with 100 or more full-time workers to give 60 days written notice of a plant closing or mass layoff to agents of the affected workers (or the workers themselves if no union exists), to the local government, and to the state dislocated worker unit (TARN sec.3(b)).

A "plant-closing" is defined as the closing of a single location of a firm involving 50 or more employees. A "mass layoff" is defined as a layoff of more than 6 months" term that influences at least one third of the workforce (but not less than 50 employees) at a single location of employment. The one-third rule does not apply if 500 or more workers are laid off, and notification must automatically be given. Part-time workers are entitled to notice once it is activated but are not included in determining the number of employees affected in the plant closing or the mass layoff.

WARN not only relieves small firms the responsibility of giving notice, it also includes a number of exemptions, exceptions, and exclusions. First, loss of employment from a temporary location or assignment are exempt. Loss of employment from a strike or a lockout are also exempt. Second, the amount of notice given can be decreased for certain qualifying cases: companies who are trying to prevent closure by actively pursuing capital or business; business conditions that arose unexpectedly at the time notice would have been required; and loss of employment because of natural disasters. Finally, workers who are offered transfers to another employment location within a feasible commuting distance and workers who accept transfers to any other location are not counted as displaced under WARN.

Firms who do not conform with WARN are required to pay the workers their full wages and fringes for every working day that notice was not given. If a firm does not advise the proper local government unit of a plant-closure or a mass layoff, it is susceptible to a civil fine of up to $500 for each day of violation. It should be noted however, that this fine may be waived if firms make immediate reimbursement of their responsibility to their workers. The ruling that a firm is in breach of WARN must be followed through individual or class action suits delivered by the wronged parties in federal district courts, and not by any government enforcement agency.

Before WARN was implemented approximately one-half of displaced employees obtained some form of notice, although, usually informal in nature. It was believed that the introduction of legislation would increase the provision of advance notice, particularly it would increase the amount of formal as opposed to informal notice given. Addison and Blackburn (1994) found that given the introduction of WARN the amount of long term formal notice (1 month to two months of notice or greater than two months of notice) did not increase with the introduction of the legislation. The primary change in notice shifted from informal notice to no notice provided at all. Finally, neither in the pre-WARN period, or the post-WARN period, does the data show a propensity for the occurrence of notice to decrease or increase.

U.S. common law on dismissals has the same origin as the Canadian common law: the English Statute of Artificers of 1563 (lacoby, 1982). After the Industrial Revolution the U.S. shifted away from requiring "reasonable" notice like Canada, to adopting the employment at will doctrine for all workers, including high wage white collar workers. Thus the U.S. did not place as much importance on the class distinction between white and blue collar workers as did Canada (Kuhn, 1993).

Regarding the evolution of U.S. employment protection legislation, in the early 20th Century the United States experienced a large increase in legislation setting minimum standards of employment, however notice requirements and other kinds of limitations of layoffs were not included is such legislation. As was stated at the onset the U.S. did not implement any sort of notice requirements until1988, with the implementation of WARN. From 1975 until 1983, 125 plant closing bills were introduced in the 30 state legislatures, and over 40 bills were introduced in the federal Congress since 1979. The main reason for the failure of these bill was the lack of support for this type of legislation (Kuhn, 1993).

Employment Protection Laws in Other OECD Countries.

Almost all countries in the OECD have some restriction on the termination of employment of an individual. Either dismissal must be for "just cause" or some form of notice and/or severance pay must be given; see Tables 7 and 8 for details. As can be seen there is a great deal of variation across countries. There has also been considerable changes in the recent past; see Table 9 for some details of changes over the 1980s. It is evident from this Table that the general trend, at least until recently, has been to more protection.

The restrictions on individual dismissals also apply for mass layoffs. This may well have the effect of increasing the advance notice period for many workers since notice given to long service workers of a mass dismissal is also implicitly the same notice given to short tenure workers. As well as the individual restrictions, there are also typically extra requirements in the case of mass dismissals. These include mandatory consultation with works councils and mandatory consultation with local authorities.

As well as these conventional forms of EPL there are also other policies that are designed to increase firing costs for firms or to provide support for alternatives to mass dismissals. One example is experience rating. This refers to the practice of linking employer's payroll taxes (or contributions to any Unemployment Insurance scheme) to the employer's history of layoffs. The only country to use this is the U.S. Other examples include government income support for temporary hours reductions (including a temporary reduction of hours of work to zero); restrictions on hours or overtime premia and state support for early retirement provisions. Income support for hours reductions makes it relatively cheaper for the employer to maintain the employer/employee relationship whilst allowing for reductions in labour costs in the event of a negative demand shock.

TABLE 7:

TABLE 7:

Authorization procedures for individual dismissals in 17 OECD countries

	Written notice[a]	Written statement of reason[b]	Consultation with employee representation[c]	Administrative authorizatior[d]
Austria	-	-	+	-

Belgium	+	+	-	-
Denmark[e]	-	-	-	-
Finland[f]	-	-	-	-
France[g]	+	+	-	-
Germany	-	-	+	-
Greece[h]	+	-	-	-
Ireland	-	-	-	-
Italy	+	+	-	-
Luxembourg[i]	+	+	-	-
Netherlands[j]	-	+	-	+
Norway[k]	+	-	+	-
Portugal[l]	+	+	+	-
Spain	+	+	+	-
Sweden	-	-	+	-
Turkey	-	-	-	-
United Kingdom[m]	-	+	-	-

Authorization procedures for individual dismissals in 17 OECD countries
+ Required
- Not required
a) A letter of dismissal must be presented to the employee before the dismissal.
b) The written notice or a separate letter must be presented to the employee stating the reasons for dismissal.
c) The employer must consult with an employee representative.
d) Authorization from a government labour office is required before dismissal.
e) Denmark: Reason may be requested by employees with more than one year of service.
f) Finland: Reasons for dismissal may, be given verbally.
g) France: A letter of termination, followed by an interview and a second letter is required for all dismissals.
Consultation with employee representation is required in cases of redundancy.
h) Greece: Notification to the national reemployment organization is required.
i) Luxembourg: The requirement for a written statement and a consultation is applicable in companies with more than 150 employees. Notification to the labour office is required for all dismissals.
j) Netherlands: Administrative authorization required except in special cases.
k) Norway: A written statement of reasons may be requested by the employee.
1) Portugal: Reasons for dismissal may be requested and a letter must be sent.
m) United Kingdom: Consultation required in redundancy cases. Written statement required after two years of employment .
Sources: OECD Employment Outlook-1993, page 96.

TABLE 8:

TABLE 8:

Legislated individual severance pay and notice requirements in OECD countries, 1991

	Severance Pay (months)					Notice periods (months)			
	Year[a]	Blue-collar		White-collar		Blue-collar		White-collar	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Austria[b]	1980	2	12	2	12	0	0.5	1.5	5
Australia[c]#	-	0	0	0	0	0.25	1	0.25	1
Belgium#	1978	0	0	0	0	0.25	2	3	15
Canada[d]	1971	0	1	0	1	0.25	0.25	0.25	0.25
Denmark	1978	0	0	1	3	0	0	1	6
Finland#	1984	0	0	0	0	2	6	2	6
France[e]#	1982	0	1.5	0	1.5	1	2	1	2
Germany#	1969	0	0	0	0	0.5	3	1	6
Greece[f]	1955	0.17	2.5	1	24	0	0	1	24
Iceland[g]	1979	0	0	0	0	1	3	1	3
Ireland[h]	1977	0	12	0	12	0.25	2	0.25	2
Italy[i]	1970	0	13	0	13	0	0	0	0
Japan	-	0	0	0	0	1	1	1	1
Luxembourg[j]	1989	1	12	1	12	2	6	2	6
Netherlands[k]#	1989	0	0	0	0	0.25	4	0.25	4
New Zealand	-	0	0	0	0	0.25	0.25	0.25	0.25
Norway#	1977	0	0	0	0	1	6	1	6
Portugal[l]	1989	1	15	1	15	2	2	2	2
Spain	1984	0.7	12	0.7	12	1	3	1	3
Switzerland	1971	2	8	2	8	1	6	1	6
Sweden[m]	1974	0	0	0	0	1	6	1	6
United Kingdom[n]#	1984	0	6	0	6	0.25	2	0.25	2
United States		0	0	0	0	0	0	0	0

- Year not available.

# Pay in lieu of notice available.

a) Legislation passed in the year mentioned in this column.

b) Austria: Minimum severance pay applies after three years of service.

c) Australia: For severance pay collective agreement usually apply.

d) Canada: Data refer to federal legislation. Fifteen years of service are assumed. Notice periods apply after three months of service and severance after one year of service.

e) France: Severance pay equal to one-tenth of a month for each year of service after two years and for companies with more than ten employees. Fifteen years of service are assumed.

f) Greece: For notice period and severance pay, two months of service are required and if notice is given, severance pay is reduced by 50 percent.

g) Iceland: Thirteen weeks of continuous service required for notice period eligibility.

h) Ireland: Severance payments apply to redundancy only and are set at a maximum of 11 000, which is equivalent to twelve months" salary based on 1988 average production worker wage.

i) Italy: Severance pay is calculated on the basis of twelve months" pay, divided by a factor of 13.5, for each year of service. Fifteen years of service are assumed.

j) Luxembourg: Severance pay applies after five years of service, and in case of firms with less than twenty employees, notice period can be extended to replace severance pay.

k) Netherlands: Notice periods are set at one month every five years of service.

l) Portugal: Redundancy - assumed fifteen years of service to calculate severance pay and notice period.

m) Sweden: Notice periods dependent upon age and not length of service.

n) United Kingdom: At least one month of service required for the employee to be eligible for the notice period. Severance payments apply to redundancy only and are set at a maximum of 5 160, which is equivalent to six months" salary based on the 1988 average production worker wage.

Sources: OECD Employment Outlook-1993, page 97.

TABLE 9:

TABLE 9:

Main changes in legislation pertaining to dismissal over the 1980s

Austria	In 1980, severance pay for blue- and white-collar workers was set out as described in Table 6
Belgium	In 1985, Belgium increased the salary thresholds from BF250 000 to BF650 000 a year, above which additional notice periods of a minimum of 3 months" notice for each block of 5 years" service must be given. Probationary periods may be extended from 6 to 12 months if salary is above BF780 00 - formerly BF300 000. The impact of the first item was to exclude about 40 per cent of white-collar workers from additional notice periods.
Finland	In 1988, the Employment Contracts Act was amended to allow employers to dismiss workers for economic reasons (and only if the worker could not be retrained for another position).
France	In 1986, legislation set out that any employee to be dismissed had to be informed in writing of the reasons for termination and called for an interview. The law also abolished prior authorization of the Ministry of Labour for collective dismissals. Legislation in 1989 forced companies to prove cause for dismissal with benefit of the doubt going to the employee.
Iceland	In 1985, individuals in the fishing fleet were to receive a minimum of 7 days" notice; individuals in the merchant fleet one months" notice, and officers three months" notice.
Italy	In 1986, Law 604 laid out the concept of "justified motive" that allowed firms with over 35 employees to dismiss workers individually because of basically economic reasons which had not been allowed prior to this law. In 1990, unfair dismissal legislation was changed to include firms with fewer than 16 people. Previously it had applied to firms with more than 15 employees. No employee can be dismissed without just cause which the employer must prove. In addition, coverage was extended to part-time workers and those on recruitment and training contracts, and managers as well. Payments for unjust dismissal are up to 15 months" wages for firms with more than 16 employees.
Luxembourg	In 1989, new legislation was passed to cover termination of contract for both blue- and white-collar workers. The notice periods range from between 2 to 6 months" depending on service, and severance from 0 to 3 months" salary. In firms with fewer than 20 people, employers can opt to give extended notice of 5 to 18 months in lieu of severance pay.

Portugal	In 1989, legislation was passed that allowed the dismissal of workers for non-disciplinary reasons. Previously, dismissal could only take place for 13 specific reasons that did not include the above. In the case of unjust dismissal, the employer has to pay wages less what may have been earned elsewhere. Also, collective dismissals no longer need labour market authorities" approval. In 1991, amendments were made to the legislation such that termination of contract could also take place if an employee was "unsuitable" for the job.
Spain	In 1980, legislation reduced the amount of compensation payable to a worker unjustifiably dismissed. In small firms, if a case takes longer than 60 days to settle, the government becomes responsible for payment.
United Kingdom	In 1985, the qualifying period-time spent with an employer-needed to claim unfair dismissal rose from 1 year to 2 years" continuous service. It had previously risen from 26 weeks to one year in 1979.
United States	In 1988, the United States passed the WARN Act-Worker Adjustment Retraining and Notification Act-which stated that employees affected by plant closures involving "mass layoffs" must be given 60 days" notice. There is also a move in some states to limit the "employment at will" doctrine and Montana has codified the exceptions.

Sources: OECD Employment Outlook-1993, page 99.

TABLE 10:

TABLE 10:

Working-time Arrangements (OECD)

	Type of regulation^a (date)		**Contractual weekly working hours (situation in early 1990s)**	**Maximum working hours (excluding overtime) ^{b}**			**Pay premium for overtime work^c**
	Law	**C.A.**		**Daily**	**Weekly Period^d**	**Acctng**	
EC countries							
Belgium	X (1987)		38	12	84	up to 1 y	50
Denmark		X	37^e		45	6 mos	50
France	X (1982)		39		46	1 yr	25
Germany		X^f	37		40	3 mos to 1 yr	25
Greece	X (1990)		40	9	48	6 mos	25
Ireland		X	39		39		50

Italy		X	39		48	given by CA	25
Netherlands		X[g] (1985)	38	8.5	42.5	1 yr	25
Portugal	X (1990)		41		41		75
Spain	X (1986)		40		40[h]		75
United Kingdom		X	37 to 39[e]		41	2 mos	25
EFTA countries							
Austria	X (1969)	X (since 1985)	38		40	up to 1 yr	50
Finland	X (1989)	37.5[i]			48	given by CA	50
Norway	X (1987)	X	37.5	10[j]	54[j]	up to 1 yr[j]	40
Sweden	X (1987)	X	40		48	up to 1 yr	80
Switzerland	X (1988)	X	41.6[k]		52[k]	up to 5 mos	25
North America							
Canada	X	X	38		40 - 48[l]		50
United States	X		40		no provisions		50m

a) This can be either a law or a collective agreement (C.A.).

b) Flexible time arrangements may enable work in excess of "normal" working hours during a certain period of time (compensated by lower-than-normal working hours in subsequent periods) without the necessity for the enterprise to provide overtime pay.

c) Pay premium calculated for a hypothetical "2 hours" overtime work, in per cent of pay of a normal hour of work.

d) Period during which average hours actually worked have to be equal to "normal" working hours, under flexible time arrangements.

e) In Denmark and the United Kingdom, there are no general regulations on working hours. For Denmark, the table refers to working-time arrangements for unskilled and female workers, most commonly found in collective agreements. For the United Kingdom, the table refers to a recent arrangement in British Railways.

f) These arrangements apply to plastic and wood industries. Similar agreements have been concluded in insurance banks, public services, construction and coalmining.

g) Refers to a collective agreement for the metal industry.

h) Agreements on flexible working time are not common (except in multinational enterprises established in Spain).

i) Refers to working time for white-collar workers. Most blue-collar workers work 40 hours.

j) The law allows considerable flexibility in the distribution of "normal" working time. Implementation of the law necessitates a written agreement with union representatives.

k) These figures apply to industry. The maximum of 52 hours requires special administrative permission.

l) Depending on the provinces.

m) According to Fair Labor Standards Act.

Sources: OECD. Employment Outlook, July 1994

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6. Employment Protection, Job Quality, and Unemployment

As noted above, the study of the effects of EPL is a very active research area. To aid us in our assessment of where we stand now we organised a workshop at McMaster that brought together a number of experts in this field. This workshop was very successful in the twin aims of finding out the details of some very recent research and also as a forum in which to establish what are the key current research and policy questions. A summary of the papers presented is given in section 2.

Broad Considerations

The usual rationale for EPL is that it provides workers with employment protection over and above that which would be provided by the market. As always, however, there may be unintended effects which will make the legislation more or less desirable. These effects will have associated costs and benefits and it is these that have to be estimated in any evaluation exercise. The broadest division of costs and benefits is by efficiency effects, distribution effects and macro effects. Efficiency effects come about because EPL may correct some market imperfection and hence make both workers and capitalists better off or it may have deleterious overall welfare effects. As regards distribution, the usual assumption is that EPL is a cost for firms and a benefit for workers (but not always, see Kuhn (1994)). Finally, EPL may reduce firing in downturns and decrease hiring in booms and hence stabilize employment and labour income over the business cycle; this may have a stabilizing effect on all cyclical fluctuations.

Before we can make any attempt to assess the benefits and costs of EPL we need to identify all of the possible effects of such legislation and then to assess their quantitative importance. In assessing the effects of EPL it is imperative to take into account the context of the legislation. Labour market workings, other legislation and wider cultural environment all mediate effects of EPL. For example, in Germany the cost to firms of having restrictions on layoffs is partly borne by the state in the form of income support for workers on short-time work (see Abraham and Houseman (1992)).

Another consideration that it is important to keep in mind in all that follows is that EPL may have very little effect. This may be because it may simply codify practice that firms and workers have already arrived at. For example, Abraham and Houseman (1993) argue that Germany's legislation restricting mass layoffs came after these were effectively dropped as an adjustment mechanism. Alternatively, legislation may net have any effect either because it is not enforced or it has very little "bite". As noted in the previous section, Addison and Blackburn (1994) provide evidence that the 1988 WARN legislation in the U.S. had no discernible impact on the provision of advance notice. This seems to be partly due to employers ignoring the legislation or "designing" the layoff so as to avoid the statutory provisions and partly to the limited coverage (for example, firms with less than 100 workers are exempt).

Specific Costs and Benefits

In this sub-section we provide a listing of possible costs and benefits. In doing this, it is impossible to include all of the effects suggested in the literature and to avoid overlap; thus many of the items listed below are fairly similar.

1. EPL shifts "power" toward workers (Buechtemann (1992), St Paul (1994)).
2. EPL reduces long run employment levels since it raises hiring costs and lowers labour demand.
3. EPL smooths demand fluctuations due to (Keynesian) coordination failures (Bentolila and Bertola (1990)).
4. EPL promotes equity among workers in so far as it "spreads" the misery consequent on a downturn among workers. That is, it leads to smaller reductions in earnings for all workers rather than to large reductions just for those thrown out of work.
5. EPL increases the length of employment spells and unemployment spells. That is, there is a lower chance of losing a job but also a lower chance of finding a new one if a worker becomes unemployed.
6. EPL increases advance notice of a dismissal and hence increases the job finding rate in the pre-displacement period and decreases unemployment at displacement.
7. Advance notice laws increase the post-displacement wage and lead to better job matches.
8. Advance notice laws increase costs to firms since it leads to pre-displacement quits (Kuhn (1994)).
9. Stronger job security leads to a more stable workforce and hence to lower resistance to new technology by workers (Abraham and Houseman (1993)).
10. The loss of specific and general human capital during an unemployment spell has a social cost over and above the private costs to firms (Booth and Zoega (1995)). If EPL reduces turnover then it reduces these social costs.
11. If wages are flexible in the short run then advance notice laws increase the expected profits of firms and decrease the expected utility of workers but also lead to potential Pareto improvements (Kuhn (1992)).
12. If contracts include notice provision, there is some benefit to firms in the form of reduced wages and greater worker investment but firms may renege if closure becomes necessary (Deere and Wiggins (1991)). EPL decreases the opportunities for reneging and hence increase the credibility of such (implicit) contracts.
13. EPL reduces the moral hazard associated with UI systems since such legislation prevents firms from laying off workers "too readily".
14. 14. EPL encourages use of temporary or contract workers who are not subject to EPL provisions.
15. EPL slows adjustment in the labour force to permanent demand or technology shocks.

Quantifying Costs and Benefits

Although most of the possible effects of EPL listed in the previous sub-section are plausible, there is still a considerable gap in our understanding of just how significant they are. Indeed, many have never been formally investigated and remain only theoretical possibilities.

There are several possible sources of evidence. The first is cross-jurisdictional evidence; that is, evidence from across countries or from across provinces in Canada. One immediate problem here is how to control for other differences across countries; fairly obviously we would be ill-advised to attribute all of the differences between unemployment incidence and duration between, say, Canada and Germany just to the differences in EPL. Another problem is how to effectively summarize the differences between EPL in different jurisdictions. Since these differences are multi-dimensional we need to reduce them to a small number of indices (usually one) if we are not have as many sources of differences as observations. This "boiling down" of the different EPL provisions introduces a subjective element into the analysis; this would not be too important if this had no effect on final conclusions but it seems that it sometimes does. The great virtue of this approach is that it firmly links many of the outcomes of interest (for example, the levels and dynamics of unemployment) to EPL provisions. The converse of this is that we cannot identify exactly how any such effects come about; thus this is a somewhat "reduced form" approach that makes it difficult to predict how well legislation that is effective in one country would work in another.

Another possible source of evidence is time series data on unemployment outcomes for a single country that has experienced a change in EPL. This also presents some problems. First, the introduction of the EPL may itself be motivated by developments in the labour market and hence cannot automatically be taken as exogenous to the outcomes being considered. Second, there are typically very few changes and these tend to happen at times when other important factors impinging on unemployment outcomes are going on. Thus a finding that, say, average unemployment duration rose after the introduction of EPL may be caused by some other factor altogether. Yet another possible source of evidence on the effects of EPL is gross flow data; that is, data on hiring and firing by individual firms. This is likely to be more efficacious if we make cross-country comparisons.

Finally, there is evidence from micro data on individual workers or firms. For example, we can examine the effects of advance notice on subsequent unemployment outcomes from displaced worker surveys. This does not, of course, link the outcomes directly to the legislation but it does give an indication of what effects are likely to be significant. Conversely, this rather more "structural" approach may identify linkages between employer policies and outcomes of interest that could be used to design better EPL.

The most investigated area is the effect of advance notice legislation. The emerging consensus here is that it "works" and it does so almost exclusively by raising the job finding rate in the lead time offered by the notice period. There is also a consensus that firing costs reduce unemployment variability (Bertola (1990), Bentolila and Bertola (1990) and Lazear (1990) but none on whether it affects the long run rate of unemployment. Theoretical models suggest that although there may be some impact on the long run level, it is ambiguous as to whether this is positive or negative. The usual presumption is that EPL increases labour costs and hence reduces long run labour demand and long run employment but this presumption ignores the direct positive effect of EPL on the employment levels of senior workers whose jobs are protected by the laws.

Conference Proceedings

Eight papers were presented at the workshop on "Employment Security and Employment Protection" at McMaster University on November 4, 1995. These papers can be divided into: one conceptual, or overview paper (Buechtemann); two theoretical (Booth and Garibaldi) and five empirical (van Audenrode, Houseman, Hunt, Blackburn and Friesen). The papers covered a number of the effects discussed in the previous section, and illustrated just how lively this research area is. They exemplified the fact that although there is some consensus in this area, a great deal still remains to be done.

In his discussion, Buechtemann set the stage by drawing a key distinction between the concepts of **employment security** and **job security. Job security** means a reasonable certainty one can remain in one's current job with one's current employer; one of the more common aims of what are often called "employment protection laws" seems to be to try to provide this kind of security, especially for older, long service workers, by making it difficult and/or expensive for firms to lay workers off. **Employment security,** on the other hand, means having a reasonable degree of certainty that one will remain employed in a high-quality job for the rest of one's working life. Clearly, employment security can be obtained in an economy without job security (for example if the labour market is tight, job skills are portable, and there are always a large number of good jobs available to laid-off workers). An interesting question, which has been explored by a number of economists, is the extent to which laws which force firms to provide **job security** to their incumbent workers actually reduce the amount of **employment security** experienced both by new entrants to the labour force and to older workers who do experience permanent layoffs.

Booth (Booth and Zoega (1995)) presented a novel addition to the list of possible costs and benefits of EPL to those usually listed and reviewed in the previous section. In general, firms will provide less than the socially optimal amount of training if their employees may leave in the future. If firms find it costly to lay off workers then there is less chance of separation and the benefit to them of training rises; consequently they provide more. Thus one market failure (the underprovision of training) may be partially overcome by appropriate EPL in the form of mandatory redundancy payments (or some other form of firing costs). Additionally, in the model, the presence of firing costs reduces the variability of employment and thus the loss of specific and general skills (which are assumed to degenerate during an unemployment spell). Once again, there is a social gain which outweighs the costs to employers.

The other theoretical paper, by Garibaldi (Garibaldi (1995)), has a completely different flavour. It rationalises an empirical finding that has been identified in the literature dealing with the effects of EPL. This finding is that the dynamics of job creation and job destruction differ between the U.S. and other OECD countries; specifically, job destruction is more volatile in the U.S.. The model that Garibaldi uses is based on a standard dynamic search model which assumes that hires are costly and time consuming but fires are cheap. Since this is not the case for many countries, the novelty Garibaldi adopts is to allow that firing costs have a significant stochastic element. This takes the form of the possibility that some central authority will refuse the firm permission to have a mass layoff in the event of a downturn.

In the model, the presence of deterministic firing costs (for example, mandatory notice or severance payments) is not sufficient to generate the observed difference between the U.S. and other countries. Given this (and other more or less conventional assumptions) Garibaldi goes on to show that if job separation costs are stochastic then a decrease in the probability of permission leads to less volatility in job destruction. This is consistent with the observed difference between, say, the U.S. and the Netherlands (which does have EPL of the "permission" variety) but it is not clear how it applies to most other OECD countries that do not have such legislation. Finally, Garibaldi derives an "out-of-sample" prediction that a stochastic element to firing costs leads to lower job flows (that is, to less job destruction and creation). Perhaps the most interesting finding in the paper is that the introduction of known firing costs into a conventional dynamic search model does not lead to any change in the conclusions regarding gross job flows.

The van Audenrode (Leonard and van Audenrode (1995)) paper examines gross job flows in Belgium. The paper starts from the observation that Belgium is often cited as a classic example of "Eurosclerosis," that is an economy that combines high persistent unemployment, low employment growth and rigid real wages. This combination of ills is often attributed to the presence of strong EPL. The paper presents an analysis of job creation and destruction, labour turnover and wage adjustment at the firm level using data from 1983/84. The first set of findings concern job creation and job destruction. It is found that levels of both are lower than in the U.S. but still very substantial (about 7 percent per annum). Job change figures (accession and separation rates) are even higher, although once again lower than in the U.S.. The finding that there is a twenty percent rate of new hires in Belgium each year seems to argue against the case that its persistently high unemployment rate is due to low hiring rates induced by strong EPL (or other explanations, such as insider power or excessively strong unions).

One other striking result in the van Audenrode paper is that hiring and firing are **positively** correlated across time and across firms; that is, firms which are hiring more in any year also tend to have higher firing in that year. This is the opposite of the U.S. and is once again difficult to rationalise as the result of strong EPL. Finally, it was found that wages are more dispersed and flexible than was previously thought and that there is a negative relationship between employment and wage changes at the firm level. Once again, this is very different from the usual characterisation of Belgium (and, by implication, other countries with effective EPL) given above. Thus the paper concludes that the persistently high unemployment observed in Belgium is unlikely to be caused by legislation restricting firing.

The paper by Houseman (Houseman (1995)) compares labour market adjustments in Europe, Japan and the U.S.. The principal conclusion is that although different countries use different approaches to adjusting workforce levels consequent on demand and technological shocks, the long run outcomes are very similar. The most striking difference is between those countries that use layoffs (the UK and the U.S.) and the others which use other methods. The latter include short time working, attrition, early retirement, internal transfers and the shedding of temporary or contract workers. Since EPL varies widely across these countries Houseman concluded that such legislation has little effect on long run adjustment.

The next paper in the conference (by Hunt) is at the other end of the empirical spectrum in this literature from the Houseman analysis. Whereas the latter compares "large" outcomes across several countries, the Hunt paper (Hunt (1995)) uses micro data from one country to examine a very specific issue, namely short time working in general and work sharing in particular. As she pointed out, mandatory work sharing can be seen, where it exists, as a potentially important kind of employment protection law, because it forces firms to substitute reductions in hours per worker for layoffs. In her very careful study Hunt uses data from the 1984 and 1989 waves of the German Socio-Economic Panel and shows that reductions in the standard working week for blue collar workers lead to an hour for hour reduction in the actual working week. The source of variation in the data is the standard working week established in industry level bargaining between unions and employers. It is important to emphasise that the typical agreement also restricted the use of overtime since the avowed purpose of the change in the working week was to increase employment. This suggests that the standard working week is not fixed by technology but can decreased. Whether this leads to a consequent increase in employment is beyond the scope of the paper.

The penultimate presentation in the conference, by Blackburn was largely a review of previous work by the author himself, John Addison and others. He began with a review of past work on U.S. data concerning the effects of advance notice on the duration of unemployment, post-displacement wage and the stability of any post-displacement job. Noting that all of this is based on data from a period in which there were no statutory notice provisions in the U.S., Blackburn went on to analyse the impact of the 1988 WARN legislation on actual advance notice given (see Blackburn and Addison (1994)). Given that there is no evidence that this legislation resulted in a higher incidence of advance notice the conclusion is that "before and after" studies using U.S. data are unlikely to give results concerning the effects of advance notice that any more robust than those we have.

The final paper in the conference, by Friesen, was the only one to use Canadian data (see Friesen (1995)). The study uses information on about 3,200 separations in Canada taken from the Survey of Displaced Workers of 1986. The analysis presented is particularly useful since it uses the inter-province variation in EPL as the source of variation to identify the effects of such legislation. Thus the statutory weeks of notice for a particular separation is taken as the relevant variable rather then the actual weeks of notice as in other studies. This accomplishes at least two goals. First, it is this variation that is of immediate relevance for policy evaluation purposes. Second, it allows identification of the cause of a well known effect, viz. that workers who suffer a job loss because of a plant closure suffer shorter spells of unemployment than otherwise identical workers who loose their job in a partial layoff. This may because the latter expect a recall and hence search less intensively or because employers believe that workers who lose their job because of a plant closure are higher quality (on average) than other job losers. The identification comes from the fact that taking the policy variable rules out the "worker quality" effect so that if we observe an effect it must be because of the "recall" hypothesis.

The focus of the Friesen study is the effects of advance notice legislation on unemployment durations for displaced workers. The sample is stratified according to whether the displacement was the result of a plant closure or because of some other cause (so called "layoffs"). The first finding is that longer statutory advance notice increases the probability of having a new job at displacement for "closures" but there is no effect for "layoffs". The second part of the analysis concentrates on the duration of unemployment given there is no new job at the displacement. Once again, there is an effect for "closures" (more statutory notice leads to lower duration) but not for "layoffs". This fact that we only observe an effect for the "closure" sub-sample strengthens the consistency with the "recall" hypothesis since presumably this group have no recall, expectations and hence begin to search immediately notice is given. One concern with these findings is that the statutory weeks variable is included simply as itself but the summary statistics presented in the paper suggest that most of the differences in duration are associated with having zero (statutory) weeks of notice or having some positive amount. Thus it is an open question as to whether the effect identified is simply being driven by this difference or whether there are also significant differences between those who have different amounts of (positive) statutory notice. Nonetheless this paper represents a significant addition to the large literature on the effects of advance notice in general and the effects of EPL in particular. If the effects identified turn out to be robust then we can conclude that advance notice legislation does have an effect on unemployment outcomes, at least for victims of plant closures.

Chapter Summary

We have emphasized in a number of places that the analysis of the effects of EPL is still a very active research area. Although there is some consensus on some aspects of the research agenda there is also still a lot of work to be done.

One area in which there is agreement is that EPL reduces the volatility of employment over the business cycle. This may be viewed as a good or bad outcome. On the negative side, it reduces the flexibility of labour markets to adjust to demand and technological shocks (but some argue that the extra stability from EPL actually enhances the ability of firms to re-deploy workers). On the positive side, it moderates cyclical swings and reduces the uncertainty that workers face.

There is no consensus on the long run effects of EPL on employment. At one end of the spectrum we have Abraham and Houseman who suggest that the long run effects on labour demand (in terms of person years) are independent of the form of EPL. At the other end of the spectrum we have, for example, Lazear (1990) who suggests that EPL reduces the long run level of labour demand and increases unemployment. In this view, the major cause of the divergence between the U.S. and other OECD countries in their unemployment experience during the past twenty years is the extensive EPL found outside the U.S.. Clearly, more research, especially on a cross-country, or at least cross-jurisdictional basis, is needed, and indeed seems likely to appear very soon.

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Footnotes

[1] According to Wood (1994)) this adverse effect took the form of increased unemployment among the unskilled in those European countries which did not experience increased wage polarization during last two decades.

[2] The recently compiled NBER Trade Data Files contain data on shipments, value added, employment, payroll, real capital stock, and unionization as well as value of imports and exports for 450 4 digit SIC industries between 1958 and 1984 (Abowd, 1990).

[3] Note that this probably contrasts with the move toward assembly-line technology in earlier decades, which required large amounts of unskilled or semiskilled labour.

[4] Feenstra and Hanson's (1994) study of US.-Mexico trade, wages and investment flows is a recent exception.